Consumer Reports

"FACTS YOU NEED BEFORE YOU BUY"

VOL. 12, NO. 2 Published Monthly by Consumers Union FEBRUARY, 194

Washing Machines

Pressure Cookers

A Pocket Radio

Garden Supplies

Baked Beans

Bath Preparations

Contact Lenses

Obesity

Your Income Tax

CONSUMER REPORTS

Volume 12, No. 2 **February, 1947**

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CONSUMERS UNION *is a non-profit organization chartered under the Membership Corporation Laws of New York State. Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental or private laboratories. Samples for test are in practically all cases bought on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinions of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is Consumers Union's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.*

Bread & Butter and Consumer Reports

With the end of March, BREAD & BUTTER, CU's news publication, will go out of existence as a 4-page weekly, and will be merged with the present *Consumer Reports* into an enlarged and expanded monthly *Reports.*

BREAD & BUTTER came into being in February, 1941, when, under the impact of a developing war economy, shortages of consumer goods were beginning to appear and inflation was threatening; when the fight for price control and rationing to safeguard both consumers and the nation's economy was beginning to take form. Reports on legislative and other government activities affecting consumers were taking more and more space in the daily press; but the significance of these activities to consumers was seldom clear.

The Consumers Union Board of Directors responded to the needs of the times by establishing a weekly publication for consumers and consumer organizations to report, interpret, and help in guiding consumer action along lines which would benefit not only the consumer interest, but the nation's economy and the war effort, as well.

Now the Consumers Union Board has voted to end the separate existence of BREAD & BUTTER in the belief that the times no longer require a regular weekly publication for consumers. The Board felt, too, that by adding to the monthly *Reports* the number of pages now devoted to BREAD & BUTTER in the course of a month, it could better serve the interests of subscribers.

Only four of the pages to be added to the Reports will be devoted to the BREAD & BUTTER section. The rest will be used to give readers the kinds of material they have been asking for in thousands of letters and in the 40,000 returns on last year's annual questionnaire.

Every month, beginning with the enlarged April issue, there will be material of special interest to home buyers and owners; a special report for automobile buyers and owners; a home gardening section; a special report for amateur photographers; an enlarged medical section, and many other special departments. Even the many thousands of readers who have been asking for brief movie ratings and for regular monthly phonograph record ratings will find what they want in the enlarged *Reports.* The merging of the two publications will make it possible to add such material without any sacrifice of the space now devoted to product reports and ratings.

Consumers Union will welcome comments on the new sections and departments as they appear, as well as suggestions for other types of material that might be included in the *Reports,* in line with CU's purpose, as stated in its charter, "to give information and assistance on all matters relating to the expenditure of earnings and the family income."

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WASHING MACHINES

The Bendix automatic washer, two spinner-type washers and 16 wringer-type machines are rated by CU after laboratory tests of cleaning effectiveness, wear on clothes, and other factors

Except for the electric iron, the electric washing machine is probably the most important labor-saving device in the American home. Over 60% of the 31 million wired homes in the United States have electric washers, according to a recent survey by the trade publication, *Electrical Merchandising.* This figure does not take into consideration the great number of potential buyers whose orders remain unfilled. The accumulated demand is still enormous, in spite of the fact that the 1946 production was higher than any prewar year, and that 1946 sales have been mainly to new users. The great replacement market is largely untouched. This may be due to the tendency of buyers to make their old models do until prices come down to earth. (The average price in 1941 was $78.50; the average for the first nine months of 1946 was $112.17.)

The purchase of a washing machine usually involves a large investment. The potential buyer should therefore weigh carefully the advantages and disadvantages of different brands before making a choice. Considering that a washing machine is expected to last at least five years, and usually lasts much longer, a more expensive machine with superior convenience features may be well worth a greater initial cost.

The wringer-type washing machine is still the most "popular" type in the sense that more of these machines are sold than any other. This is directly related to the fact that they require the smallest initial outlay.

Unfortunately, many people who have been waiting for the completely automatic washing machines such as the *Bendix Automatic Washing Machine,* the *Westinghouse Laundromat,* or the *Jacobs Launderall,* have found these machines still unavailable. Although CU was able to purchase only the *Bendix* in time for this report, there is no question that automatic washers are far superior in convenience to other types.

In the present investigation, CU rated two models of *Bendix* machines, two machines with spinner-driers and 16 wringer-type washing machines. Ratings were based on washing ability, wear on clothes, construction, shock hazards, safety of wringer and miscellaneous minor considerations.

WASHING ABILITY

How clean a washer is capable of washing soiled clothes was considered the most important factor in rating. Washing ability was tested as follows: One-foot square pieces of sheeting from which the sizing had been removed were measured for whiteness by means of a photoelectric reflection meter. The cloths were then "dirtied" in a dispersion of carbon black in water and the reflection again measured. A number of these soiled cloths were placed in the washing machine being tested, together with a full load of clothes. After standard intervals of washing time, pairs of soiled cloths were removed from the washer and the reflection measured and plotted on graph paper. The reading equivalent to 15 minutes of washing was used to calculate the percent recovery of reflection or cleaning ability.

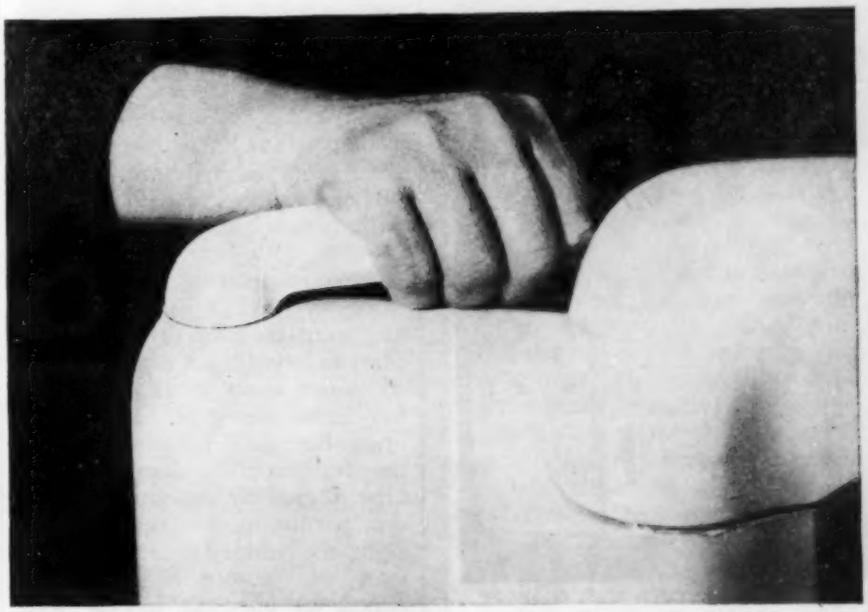
WEAR ON CLOTHES

The wear on clothes was determined by weighing desized, unhemmed sheeting before and after 24 hours of continuous washing in the machine. The percent loss of weight was taken as an indication of wear.

Although it may seem logical to expect that the machine which washes clothes cleanest should also cause the greatest amount of wear, such is not always the case. The *Norge,* which had the best cleaning record, showed only average wear, while the *Apex* had poorer than average washing ability and caused more than average wear on the clothes.

CONSTRUCTION

The tubs of the washers tested were made either of aluminum or of enameled steel. The agitators were made either of these materials or of plastic. A tub made of enameled steel



Some poor engineering on the Maytag—the wringer control lever can jam and injure the fingers.

is subject to corrosion once the enamel has been scratched, chipped or otherwise injured. On the other hand, aluminum is subject to corrosion if used with very alkaline soap mixtures and even with hard water. However, aluminum tubs have been known to last many years without visible signs of corrosion.

An agitator must be removed in order to clean the tub under it. During this operation, the agitator may be dropped and broken if it is made of breakable plastic. If the drop is hard enough to break a plastic agitator, it might also damage an aluminum one, however. Since the cost of replacement may be $10 or more, it is wisest to handle the agitator carefully.

In most washing machines, the outer shape forms the tub. These are described in the ratings as "single-wall" tubs, as compared with "double-wall" tubs in which the tub is set inside an outer shell. "Double-wall" machines are more desirable, since the layer of air between the two walls acts as an insulator, retaining the heat of the wash water for a longer period of time. This is of special value where the same soap water is used for several loads of wash.

Because washing machines are usually operated in damp surroundings and near water pipes, there is always a possibility of shock hazard. Every washer should, therefore, be "grounded" when installed. That is, a wire should be connected between the body of the washer and some electrical "ground" such as a water pipe. This will prevent shock-hazard conditions from developing even if something goes wrong with the motor or wiring inside the washer. The *Bendix* company includes "grounding" in its installation.

Generally, the best means of grounding a washer is to have an electrician install a 3-prong outlet in the wall (one of them a ground connection) and a 3-wire cord instead of the regular washer cord. In this way the washer is automatically grounded when it is plugged in.

Bendix Model S, low in cleaning effectiveness, high in convenience.

Many apartment houses have *Bendix* or other types of automatic washing machines installed in their basement laundry rooms. These machines are coin-operated and usually cost 10 cents for each tub of clothes. (Recently, despite consumer resistance, prices have been raised to 20 or 25 cents in some apartment houses.) Some tenants who live in apartment houses where this facility is not available have gotten together and installed their own automatic washing machine for cooperative use. The cost of such a machine when split eight ways may be fully paid for in one year of operation.

In addition to installation of automatic washing machines in apartment house laundry rooms, larger cities have been seeing the advent of a new business enterprise, based on these machines. "Launderettes" or "automatic laundries" have been installed in many neighborhood stores. Women bring their laundry (up to 10 pounds for 25 or 30 cents—including soap) to the "launderette," which usually contains 20 or more automatic washing machines. Each family's laundry is put into a separate machine by the operator, and the housewife is free to go off to do her shopping, or remain to chat with her neighbor over a bit of mending. She may pick up her laundry immediately after it is finished, or leave it in the morning and come back for it after work. She can have bleach or bluing added to her wash, if she desires, at five cents per item. Or she can bring her own favorite washing preparations if she doesn't like the type offered by the laundry. Except for the inconvenience of carrying the laundry to and from the store, the "automatic laundry" is almost as good as having your own washing machine.

AUTOMATIC WASHING MACHINES

Two models of *Bendix* washers were tested in this study. Although no other automatic washers were available for comparison, CU findings back up those housewives who find many good things to say about the *Bendix*. The fact that a housewife is able to deposit soiled clothes and soap in the machine, set it in motion and then forget about her washing until she is ready to hang it for drying is certainly a tremendous advance. Nevertheless, the consumer should consider the limitations of the *Bendix* automatic machine.

In the first place, it must be bolted to the floor. This constitutes a problem for apartment dwellers. Landlords have the right to prohibit tenants from making such installations. And if a washer is installed without his knowledge or permission, the landlord has a legal right to claim the machine, since any improvements to the apartment automatically become the property of the owner. Aside from such legalistic considerations, some architects claim that the vibrations set up by the automatic

Bendix DeLuxe, similar to Model S, but has different outsides and costs more.

The Easy — the only "Acceptable" spinner-type machine tested.

washer are detrimental to the structure of the apartment house.

Secondly, the *Bendix* uses 24 gallons of water for each batch of clothes. A regular washing machine uses 16 to 20 gallons for the washer, plus two rinse tubs of ten gallons each. But in a regular washing machine, the same wash water may be used for several batches of clothes. Some housewives who regularly do several batches of laundry may object to using the amount of water required by the *Bendix;* or they may find their hot water supply inadequate for several successive batches.

With a regular washing machine, a housewife is able to use the same soapy water many times (first for bed linen and other slightly soiled clothes, then for dirtier and darker items). With the *Bendix,* however, the soapy water is automatically washed down the drain. Although the cost of soap for each washing is small, the thrifty housewife may consider this a wasteful procedure.

One great disadvantage of the *Bendix* is its relatively low washing effectiveness. Of course, this must be weighed against the fact that the amount of wear incurred in the washing process with the *Bendix* is small in comparison with the wear caused by other machines. This may be due to the "tumble-barrel" washing motion of the *Bendix,* the only machine tested which did not use an agitator.

All of the non-automatic machines tested can be classified as either spinner-driers or wringers.

SPINNER MACHINES

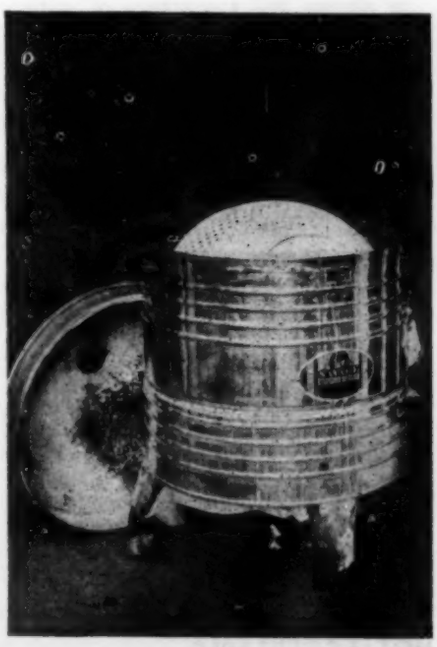
Spinner machines are considered more desirable than the wringer type because of their greater safety and convenience. Unfortunately, however, only one of the two spinner models tested can be considered "Acceptable." The *Savage* had to be rated "Not Acceptable" because of the difficulty of operation and because of its tendency to "walk" across the room during the spinning process.

WRINGER MACHINES

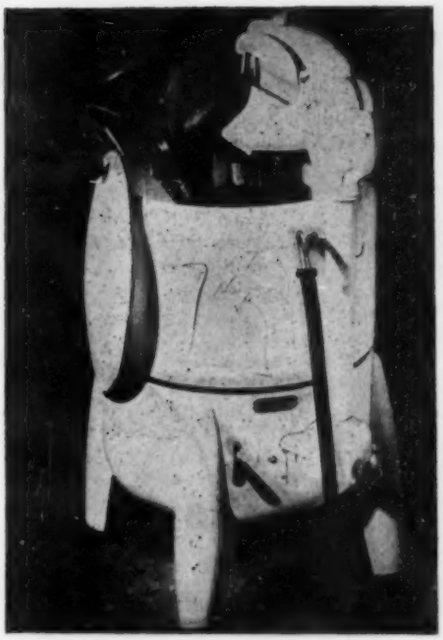
Wringer-equipped machines are cheaper than those with spinner-driers, and for this or other reasons, some consumers will buy the wringer type. In such cases, it is important to consider the safety release mechanism on the wringer.

SAFETY OF WRINGER

Underwriters' Laboratories require that "the release mechanism shall be readily accessible and operable from either side of the wringer frame in the same manner, and shall be such that a steadily applied force of not more than 20 pounds will be sufficient to release maximum roll pressure. The operation of the release mechanism shall not result in any parts being thrown violently out of the assembly, shall release the tension of the rolls immediately and permit their separation for not less than two inches throughout their entire length."



The spinner-type Savage—difficult to operate and it "walked."

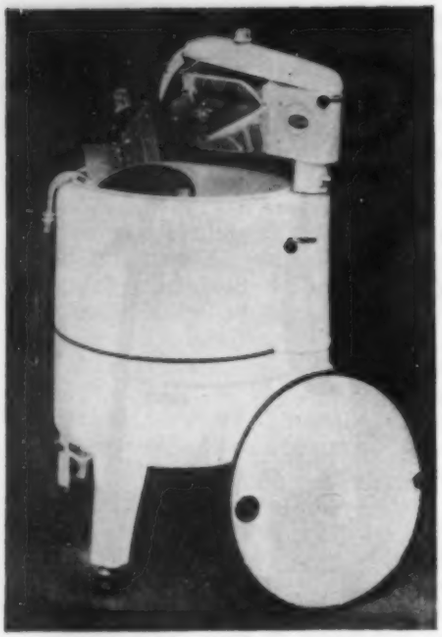


The Norge—highest ranking of the wringer-type machines.

Two of the machines tested by CU were rated "Not Acceptable" because the wringer mechanisms did not fulfill these safety requirements in important respects. The *Conlon* required 24 pounds of pressure to operate the safety release. The *General Electric* model tested by CU had the safety release arranged so that there was danger of the rollers' catching the operator before the release could be tripped.

Several other wringer-type washing machines were rated "Acceptable" even though they did not fulfill all the Underwriters' Laboratories requirements for safety. Even when the safety releases meet all the above stipulations, wringer-equipped machines present some hazard to the user. No matter how accessible or easily operated the release bar may be, the roll release and stop mechanism must be manually operated. Emergency conditions may result in momentary paralysis and panic, and severe injuries may occur before the safety device can be operated.

If you buy, or already have, a wringer-type machine, be sure to try the safety release every washday to make certain that it operates quickly and easily. It is wise to leave the safety release open when the machine is not in use.



The Blackstone—wear on clothes less than average.

MISCELLANEOUS CONSIDERATIONS

Among the minor difficulties encountered in otherwise acceptable washing machines were: unfinished sharp edges of sheet metal, awkward placement of wringer reset lever, necessity for unscrewing wringer pressure screw every time the wringer pressure is released, and nonautomatic adjustment of draining tray to accord with change in direction of movement of the rollers. Failures of parts in the machines tested are noted in the ratings. Because only one machine of each model was tested, however, the models are not rated "Not Acceptable" because of such failures.

In the ratings below, the following is true of all washing machines, unless otherwise stated. (1) All prices are New York City prices in January, 1947. (2) Wringer rollers fulfilled Underwriters' Laboratories requirements. (3) All control handles were safe to operate under normal conditions. (4) Casters were neither hooded against splashing water nor lockable.

Automatic

ACCEPTABLE

Bendix Model S (Bendix Home Appliances, Inc., South Bend, Ind.). $229.50 installed. Capacity 9 lb. clothes; 24 gal. water used per cycle. Fully automatic; clothes handled only when put into and taken out of basket. Cycle includes soak-tumbling (optional), wash, three rinses and spin dry. Cleaning ability poorer than average. Wear on clothes less than average. Machine must be fastened to floor. Body of machine and laundry cylinder made of enameled iron. Safety, convenience and labor-saving best of all machines tested, but may be difficult or impossible to use in some homes (see text).

Bendix DeLuxe (Bendix Home Appliances, Inc.). $249.50 installed. Appeared identical in operation and performance with **Bendix** Model S (above). Only apparent difference was in design and appearance of outside frame.

The Maytag—cleaning ability and wear higher than average.

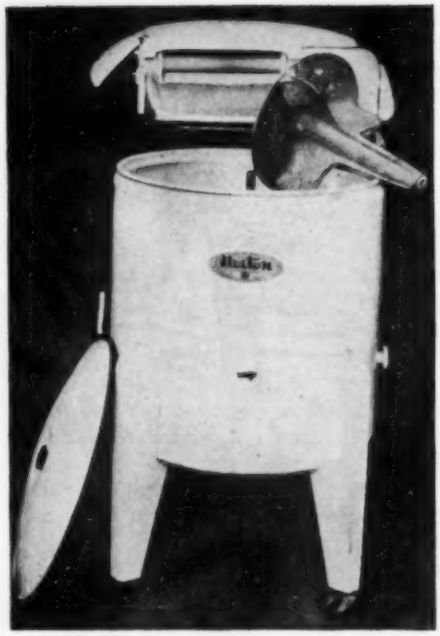
Spinner-Type

ACCEPTABLE

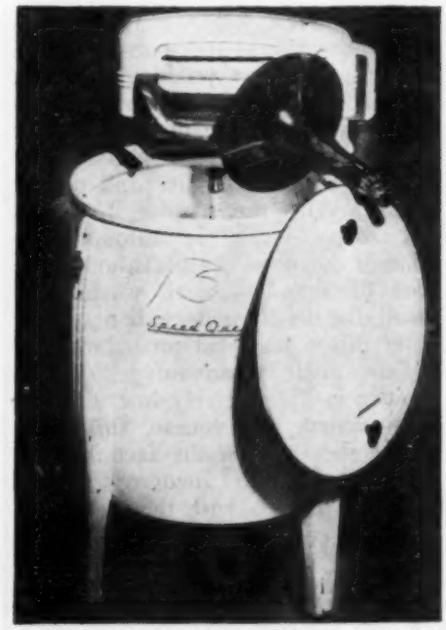
Easy 18SS46 (Easy Washing Machine Corp., Syracuse, N.Y.). $169.95. Capacity 16 gal. water (7 lb. clothes). Cleaning ability better than average. Wear on clothes greater than average. Enameled steel tub; plastic agitator. Spinner cylinder separate from tub, but built into same unit. Some care required in balancing clothes in spinner for smooth operation. Clothes left smooth and fluffy after spinning, in very satisfactory condition for hanging to dry. Machine had a spring-run timer which rang a bell at end of period set. Overload relay to protect motor. On sample tested, there was a noticeable sucking noise during operation which could not be stopped.

NOT ACCEPTABLE

Savage WA (Savage Arms Corp., Utica, N.Y.). $144.25. Single combination washing basket and spinner cylinder. Rated "Not Acceptable" because the heavy wet clothes, along with the wash-spin basket must be lifted out to change from washing speed to drying speed—judged too difficult for average housewife. Unless great care is taken in balancing clothes in spinner, the machine tends to "walk" along floor. Capacity 18 gal. water (8 lb. clothes). Cleaning ability average. Wear on clothes less than average. Body of machine and basket made of nickel-plated copper.



The Horton — washes well, but wringer release hard to operate.



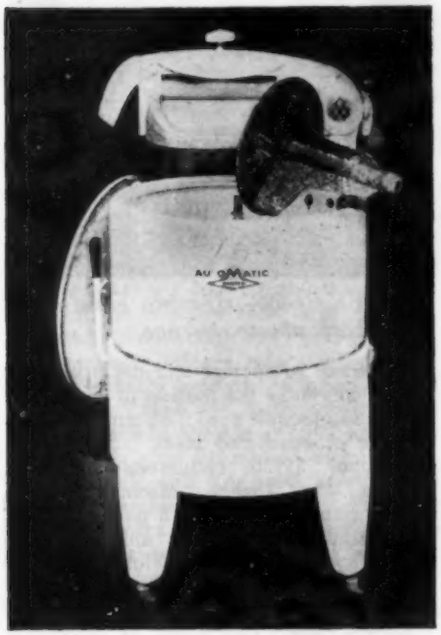
The Speed Queen—cleaning ability below average.

Wringer-Type

ACCEPTABLE

(In estimated order of over-all quality, but note comments)

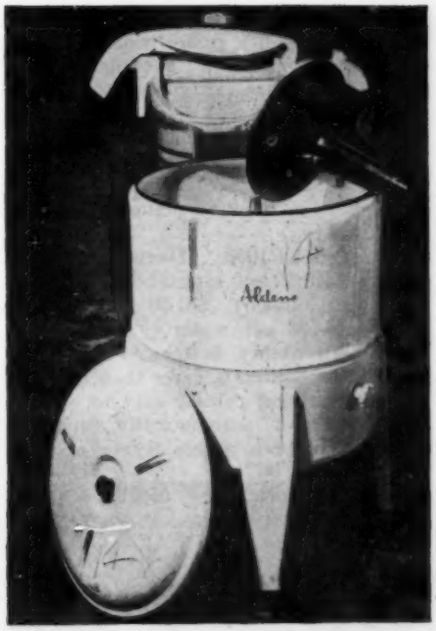
Norge W17PA (Norge Div., Borg-Warner Corp., Detroit). $113.95 without pump; $133.99 with pump. Capacity 20 gal. water (9 lb. clothes). Cleaning ability highest among machines tested. Wear on clothes average. Safety wringer release easy to operate, but did not stop motion of lower wringer roller. Enameled steel tub; plastic agitator. Casters not hooded against splashing water; could not be locked. Cover could be hung at edge of tub.



The Automatic—lid and rim of tub rusted somewhat during tests.

Blackstone 130AP (Blackstone Corp., Div. of Jamestown Metal Equipment Co., Jamestown, N.Y.). $119.95 with pump. Capacity 18 gal. water (8 lb. clothes). Cleaning ability poorer than average. Wear on clothes less than average. Safety wringer release very easy to operate. Single-wall tub. Tub and agitator made of enameled steel. Casters not hooded against splashing water; could not be locked.

Maytag E2-L (Maytag Co., Newton, Iowa). $151.75 without pump. Capacity 18 gal. water (8 lb. clothes). Cleaning ability higher than average. Wear on clothes higher than average. Safety wringer release very easy to operate; did not automatically stop the motion of the lower roller. Wringer control lever so designed as to permit jamming the hand inadvertently. Easiest wringer reset of all machines tested. Double-wall tub. Tub and agitator made of aluminum. Casters: easy rolling; hooded against splashing water; and lockable. Convenient hinged lid provides working surface when open or closed.



Alden's—cleaning ability below average, wear on clothes average.

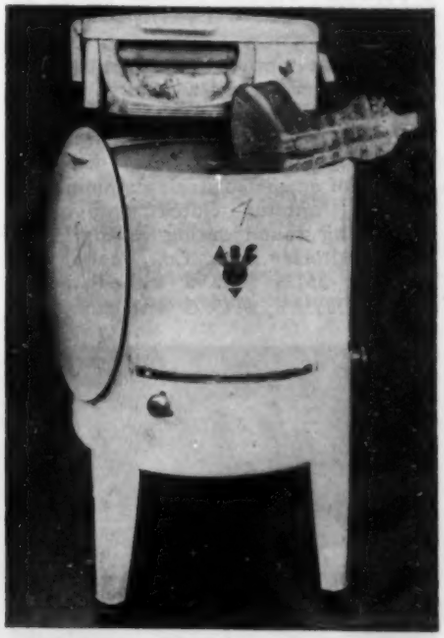
Horton 4x12 (Horton Mfg. Co., Fort Wayne, Ind.). $115 with pump. Capacity 15 gal. water (7 lb. clothes). Cleaning ability better than average. Wear on clothes average. Safety wringer release hard to operate and did not automatically stop motion of lower roller. Double-wall tub made of enameled steel; aluminum agitator. Agitator pin fell out causing agitator to fail after repeated testing. Very difficult to close drain cock so that it would not leak.

The Voss—the wringer failed in life test; lubrication poor.

Speed Queen 645P (Barlow & Seelig Mfg. Co., Ripon, Wis.). $99.95 with pump. Capacity 18 gal. water (8 lb. clothes). Cleaning ability poorer than average. Wear on clothes average. Safety wringer release easy to operate; controls very easy to operate. Double-wall tub made of enameled steel; aluminum agitator. Casters very easy-rolling, but not hooded against splashing water; could not be locked. Cover could be hung at edge of tub.

Automatic 451A (Automatic Washer Co., Newton, Iowa). $78.50; $10 additional with pump. Capacity 16 gal. water (7 lb. clothes). Cleaning ability average. Wear on clothes average. Safety wringer release required medium force to operate; did not automatically stop the motion of the lower roller. Single-wall tub made of enameled steel; aluminum agitator. Lid and upper rim of tub rusted somewhat during tests on sample tested. Cover had built-in hook for hanging on edge of tub.

Alden's 173 Cat. No. 40—2251X (Alden's Chicago Mail Order Co., Chicago). $79.95 without pump. Not listed with pump. Capacity 16 gal. water (7 lb. clothes). Cleaning ability poorer than average. Wear on clothes average. Safety wringer release required medium force to operate; did not automatically stop the motion of both rollers. It was impossible to separate the two rollers the full two inches required by Underwriters' Laboratories. Single-wall tub made of enameled steel; plastic agitator. Casters hooded against splashing water.



The ABC—wringer reset control difficult to operate.

The Thor — lacked automatic drain board reversal.

Voss 41C (Voss Bros. Mfg. Co., Davenport, Iowa). $109 without pump. Capacity 16 gal. water (7 lb. clothes). Cleaning ability poorer than average. Wear on clothes less than average. Safety wringer release fairly hard to operate. Wringer failed upon repeated testing; evidence of inadequate lubrication at factory. Double-wall tub made of enameled steel; aluminum agitator. Agitator clutch produced a groaning sound during testing.

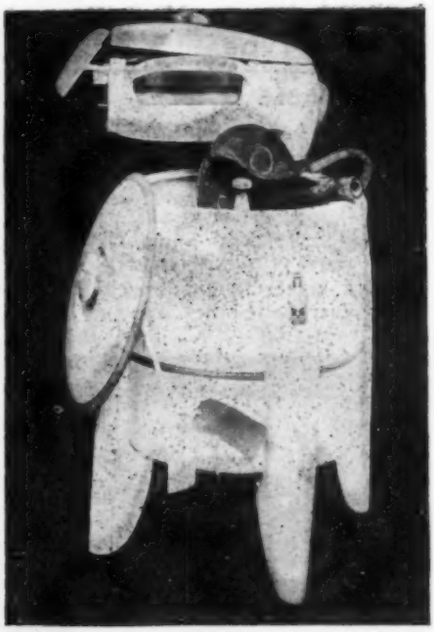
ABC (Altorfer Bros. Co., Peoria, Ill.). Model 251S, $109.95 without pump; Model 251SP, $119.95 with pump. Capacity 18 gal. water (8 lb. clothes). Cleaning ability poorer than average. Wear on clothes average. Safety wringer release fairly hard to operate. Wringer reset control difficult and complicated. Single-wall tub of enameled steel; aluminum agitator. Agitator control difficult to operate. Cover had built-in hook for hanging on edge of tub.

Thor T-81ER1055 (Hurley Machine Div., Electric Household Utilities Corp., Chicago). $81.50 with pump. Capacity 16 gal. water (9 lb. clothes). Cleaning ability better than average. Wear on clothes greater than average. Safety wringer release easy to operate but did not automatically stop the motion of both rollers. Wringer pressure control must be unscrewed before resetting wringer. Single-wall tub of enameled steel; aluminum agitator. Manual drain board reversal.

The Dexter—cleaning ability below average, wear average.

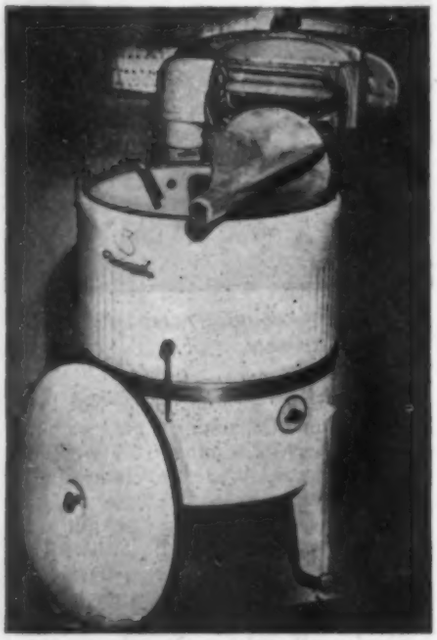
Universal WM2738 (Landers, Frary & Clark, New Britain, Conn.). $129.50 with pump. Capacity 21 gal. water (9 lb. clothes). Washing ability average. Wear on clothes average. Safety wringer release hard to operate and did not automatically stop the motion of both rollers. Wringer starting control and wringer swing catch operated with difficulty. Single-wall tub of enameled steel; aluminum agitator. Evidence of poor lubrication at factory. Equipped with overload relay for motor protection. Washer had to be tipped to drain completely.

Dexter 452E (Dexter Co., Fairfield, Iowa). $70 without pump; $80 with pump. Capacity 20 gal. water (9 lb. clothes). Cleaning ability poorer than average. Wear on clothes average. Safety wringer release required average force to operate and did not automatically stop the motion of both rollers. Single-wall tub. Tub and agitator made of enameled steel.



The Whirlpool—cleaning ability and wear both above average.

Whirlpool 51230 (Nineteen Hundred Corp., St. Joseph, Mich.). $104.95 with pump. Capacity 15 gal. water (7 lb. clothes). Cleaning ability better than average. Wear on clothes greater than average. Safety wringer release very easy to operate. Wringer failed during tests. Tub made of enameled steel; aluminum agitator. Casters hooded against splashing water and lockable. Cover had built-in hook for hanging on edge of tub. Mechanism



The Universal—wringer starting control difficult to operate.

The Apex—safety wringer release difficult to operate.

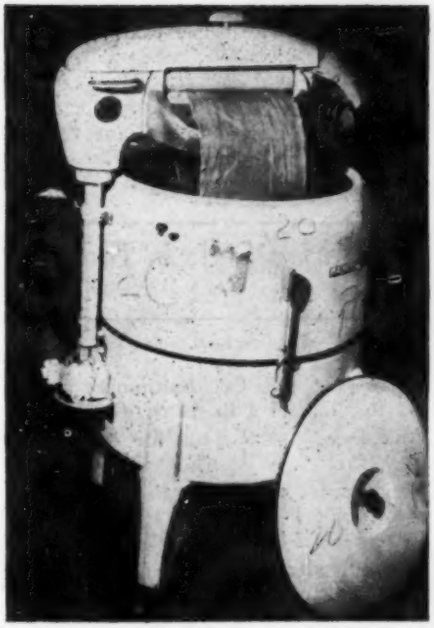
for reversing drain boards automatically did not operate properly.

Apex 4-390P (Apex Electrical Mfg. Co., Cleveland). $129.75 with pump. Capacity 20 gal. water (9 lb. clothes). Washing ability poorer than average. Wear on clothes greater than average. Safety wringer release hard to operate and did not automatically stop the motion of both rollers. On sample tested, it was impossible to separate the two rollers the full two inches required by Underwriters' Laboratories; however, another sample examined was satisfactory on that score. Single-wall tub made of enameled steel; aluminum agitator. Motor failed during tests, apparently due to lack of lubrication at the factory. Cover had built-in hook for hanging on edge of tub.

NOT ACCEPTABLE

General Electric AW 322 (General Electric Co., Bridgeport, Conn.). $129.75 with pump. Capacity 17 gal. water (8 lb. clothes). Cleaning ability average. Wear on clothes less than average. Rated "Not Acceptable" because safety wringer release was small and inconveniently located. Judged not safe for emergency use. Safety wringer release hard to operate and did not automatically stop the motion of both rollers. Single-wall tub made of enameled steel; aluminum agitator. Agitator broke down during use tests. Drain board reversal mechanism was not positive, and had to be operated by hand.

Conlon 17 (Conlon Corp. Chicago). $103.50 without pump. Capacity 17½ gal. water (8 lb. clothes). Cleaning ability average. Wear on clothes greater than average. Rated "Not Acceptable" because of excessive force required to operate the safety wringer release; judged not safe for emergency use. Single-wall tub made of enameled steel; plastic agitator. Agitator clutch failed upon repeated testing. Casters hooded against splashing water.



The GE — "Not Acceptable" safety wringer release.

Baked Beans

Government graders rate about half of canned baked beans examined as Grade A

Forty-seven brands of baked beans were examined for CU by Government graders and graded in accordance with U. S. Department of Agriculture standards as Grade A (Fancy); Grade C (Standard); and Off-Grade (Substandard). About half of the 47 brands were found to be Grade A; the remainder were Grade C except for two brands—*Phillips Delicious* and *Lucky Larder* (both with tomato sauce and pork)—which were variable. Most of the brands which rated Grade C would have been Grade A except for failure to meet Grade A standards on only one of the scoring points.

Prices generally ranged from 8¢ a pound to about 17¢ a pound. Two brands containing frankfurters were more expensive—22.7¢ and 26.2¢ a pound, respectively. As is frequently true of canned goods, there is no economy in buying Grade C beans when Grade A brands are available. There were cheap brands as well as expensive brands in the Grade A group; and expensive brands as well as cheap ones rated Grade C.

Baked beans are packed in a variety of can sizes—17 different sizes were found among the 47 brands tested. Nor was the larger size always the better buy. The housewife can economize best by reading labels and comparing prices with label weights.

CU's tests of baked beans covered ten brands packed New England style, 27 brands packed in tomato sauce with pork, 8 brands packed vegetarian style and 2 brands of beans with frankfurters.

Regardless of style, all canned beans were examined and rated for tenderness, absence of defects, flavor and consistency. Grade A beans are practically whole and firm, yet tender; they are free from such defects as loose skins and split, broken, mashed or discolored beans; and they should possess a flavor characteristic of the style.

Brands are listed in order of increasing cost per pound within each group. Quality differences within each grade were small. Prices given are the average of the prices paid at the various stores at which the beans were purchased.

Ratings are in order of increasing cost per pound (figure in parentheses) within each group.

New England Style with Pork

GRADE A

Ann Page (A&P, NYC). 10¢ for 1 lb. 2 oz. (8.4¢).

Friend's (Friend's New England Foods, Inc., Melrose, Mass.). 12¢ for 1 lb.

Baxter's Finest (H. C. Baxter & Bros., Brunswick, Me.). 23¢ for 1 lb. 12 oz. (12.9¢).

Alice of Old Vincennes (Vincennes Packing Corporation, Vincennes, Ind.). 18¢ for 1 lb. 5 oz. (13.7¢).

Van Camp's (Stokely-Van Camp, Inc., New Bedford, Mass.). 16¢ for 1 lb. 1¼ oz. (14.4¢).

Sealpakt (Burnham & Morrill Co., Portland, Me.). 17¢ for 1 lb. 2 oz. (15.1¢).

B & M (Burnham & Morrill Co.). 17¢ for 1 lb. 2 oz. (15.1¢); 14¢ for 13 oz. (17.2¢).

GRADE C

Puritan (Maine Canned Foods, Inc., Portland, Me.). 16¢ for 1 lb. 12 oz. (8.9¢).

Monarch Old Fashion (Reid, Murdoch & Co., Chicago). 15¢ for 1 lb. 4 oz. (12¢). Four cans tested: three Grade C; one Off-Grade because of excessive defects.

Heinz (H. J. Heinz Co., Pittsburgh). 14¢ for 1 lb.

With Tomato Sauce and Pork

GRADE A

Conqueror (Burnham & Morrill Co.). 9¢ for 15½ oz. (9.3¢).

Ann Page (A&P). 10¢ for 1 lb. 1 oz. (9.4¢).

Co-op Grade A (National Co-operatives, Inc., Chicago). 14¢ for 1 lb. 5 oz. (10.7¢).

Jackson (Morgan Packing Co., Austin, Ind.). 14¢ for 1 lb. 4 oz. (10.8¢).

Armour's Star (Armour & Co., Chicago). 14¢ for 1 lb. 4 oz. (10.8¢); 22¢ for 1 lb. 15 oz. (11.3¢).

Hurff (Edgar F. Hurff Co., Swedesboro, N.J.). 11¢ for 1 lb.; 19¢ for 1 lb. 4 oz. (14.8¢); 21¢ for 1 lb. 12 oz. (12¢).

Nor'East (Cooperative G.L.F. Farm Products, Inc., Ithaca, N.Y.). 14¢ for 1 lb. 1 oz. (12.7¢).

Sealpakt (Burnham & Morrill Co.). 13¢ for 15½ oz. (12.9¢).

Hanover (Hanover Canning Co., Hanover, Penna.). 14¢ for 1 lb.

Ritter White Label U.S. Grade A Fancy (P. J. Ritter Co., Bridgeton, N.J.). 16¢ for 1 lb. 1½ oz. (14.6¢).

White Rose (Seeman Bros., Inc., NYC). 17¢ for 1 lb. 1 oz. (15.5¢).

GRADE C

Asco Grade A (American Stores Co., Philadelphia). 8¢ for 1 lb.

Nile Valley (Consumers Cooperative Ass'n, North Kansas City, Mo.). 11¢ for 1 lb. 4 oz. (8.8¢).

Manning's (Mrs. M. Manning, Baltimore, Md.). 9¢ for 1 lb.

C and S Grade A (Case-Swayne Co., Santa Ana, Calif.). 10¢ for 15½ oz. (10.3¢).

Redkey (Caar Canning Co., Redkey, Ind.). 13¢ for 1 lb. 4 oz. (10.4¢).

Clover Farm (Clover Farm Stores Corp., Cleveland). 14¢ for 1 lb. 5 oz. (10.7¢).

Joan of Arc (Illinois Canning Co., Hoopeston, Ill.). 13¢ for 1 lb. 3 oz. (11¢).

Hunt's Supreme Quality (Hunt Foods, Inc., San Francisco). 10¢ for 13½ oz. (11.3¢).

Nebia (Grainger Bros. Co., Lincoln, Neb.). 15¢ for 1 lb. 4 oz. (11.6¢).

Otoe (Otoe Food Products Co., Nebraska City, Neb.). 15¢ for 1 lb. 4 oz. (12¢).

White Ribbon (Krenning-Schlapp Grocer Co., St. Louis). 15¢ for 1 lb. 4 oz. (12¢).

Topmost (General Grocer Co., St. Louis). 16¢ for 1 lb. 4 oz. (12.4¢).

Premier (Francis H. Leggett & Co., NYC). 14¢ for 15½ oz. (13.9¢).

Dennison's (Butler Packing Co., Seattle). 14¢ for 15½ oz. (14.5¢).

The following were variable.

Phillips Delicious (Phillips Packing Co., Cambridge, Md.). 9¢ for 1 lb.; 13¢ for 1 lb. 5 oz. (9.5¢). Seven cans tested: three Grade A, three Grade C, and one Off-Grade because of excessive defects.

Lucky Larder (J. L. Henderson & Co., San Francisco). 9¢ for 13½ oz. (10.7¢). Four cans tested: one Grade A, two Grade C, and one Off-Grade because of excessive defects.

Vegetarian Style in Tomato Sauce

GRADE A

Gibbs (Gibbs & Co., Baltimore). 8¢ for 1 lb.; 15¢ for 1 lb. 14 oz. (8¢).

Ann Page (A&P). 10¢ for 1 lb. 1 oz. (9.4¢).

Van Camp's (Stokely-Van Camp, Inc.). 15¢ for 1 lb. 5 oz. (11¢); 14¢ for 1 lb. 4 oz. (11.2¢); 10¢ for 12 oz. (13.3¢).

Manischewitz (Manischewitz Food Products, Inc., NYC). 12¢ for 1 lb.

Heinz (H. J. Heinz Co.). 15¢ for 1 lb. 2 oz. (13.4¢); 14¢ for 1 lb.

GRADE C

Libby's Deep Brown Beans (Libby, McNeill & Libby, Chicago). 9¢ for 14 oz. (10.3¢); 14¢ for 1 lb. 1½ oz. (12.8¢).

Table Queen (Smart & Final Co., Los Angeles). 15¢ for 1 lb. 4 oz. (12¢).

Loma Linda (Loma Linda Food Co., Arlington, Calif.). 16¢ for 1 lb. 1 oz. (14.6¢).

Miscellaneous Types

Van Camp's Beanee Weenee Beans with Sliced Wieners in Tomato Sauce (Van Camp's, Inc.). 18¢ for 11 oz. (26.2¢). Grade A.

Phillips Delicious Beans with Franks (Phillips Packing Co.). 17¢ for 12 oz. (22.7¢). Grade C.

A POCKET RADIO

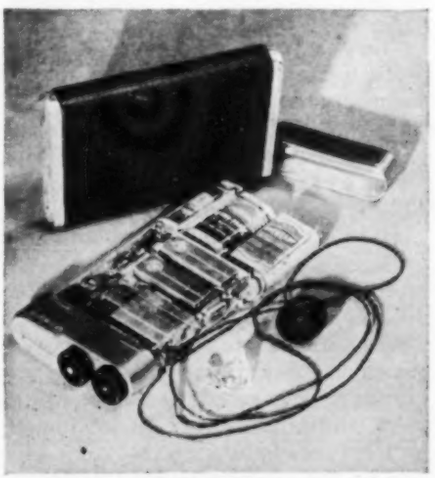
It's not as small as a matchbox, but it's small enough to go in your pocket—and it works

Recent news stories describing a radio no bigger than a match box, with wiring "printed" into the case have not yet materialized on a commercial basis. But the Belmont Radio Corporation has brought out a pocket radio receiver about the size of three packages of ordinary cigarettes which comes pretty close to filling the bill. Not only is the *Belmont Boulevard*, being sold for $65, extremely portable; it is also a pretty good radio. Within its small dimensions, the *Belmont* contains a five-tube superheterodyne radio receiver with three-gang slug-type tuning. It contains a 1½-volt "A" battery and a 22½-volt "B" battery. The antenna is the wire leading from the set to the earphone. The listening device is a *Brush* crystal earphone, very similar to the earpieces found on hearing aids. In fact the Belmont Corporation which makes the radio is a subsidiary of the Raytheon Company, which manufactures hearing aid tubes.

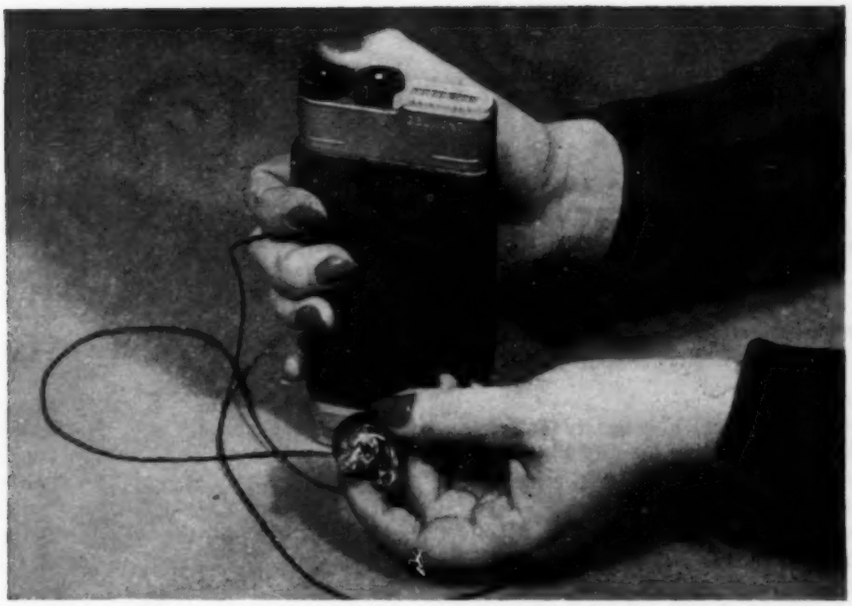
QUALITY OF RECEPTION

Reception on the *Belmont* with its five subminiature tubes is comparable to that obtainable with the average six-tube set, though the quality of the sounds produced is quite different, as a result of the different type of transmission to the ear.

A question that arises naturally is: Now that we've got it, what do we do with it? Actually, the uses for such a set as the *Belmont Boulevard* are quite limited. Its great virtues are in its portability and in the fact that it is extremely personal. Because of this portability (it is 3 inches wide, ¾ inch thick, 6¼ inches high, and weighs about 11 ounces), the set can



The insides of the Belmont Boulevard pocket radio.



The same wire carries the signal to the earpiece and acts as the antenna for the radio.

be carried in the coat pocket or purse without producing so much as a bulge. Because it can be heard only by the person who has the loudspeaker in his ear, it cannot disturb others in the vicinity. A third advantage, of particular interest to those who are hard of hearing, is that the earpiece of the *Belmont* may provide much better reception than a combination of hearing aid and regular radio.

Aside from its novelty value and its interest as an engineering achievement, then, the chief real uses of the *Belmont* would be to "professional pedestrians" — those who have to do a great deal of walking and want relief from boredom during their lonesome rounds.

SENSITIVITY

The *Belmont Boulevard* has plenty of sensitivity for general outdoor use. In New York City, it brought in all the stations on the local radio band, though sensitivity on the low end of the dial (550 kilocycles) was found considerably better than in the 1500-kilocycle region. Reception indoors was variable, depending on the type of building (whether or not it had a steel frame); the radio also worked in buses, but reception was not very good. The radio did not operate in the New York City subway.

As it now stands, and with the many good things which can be said about it, the *Belmont Boulevard* still has many "bugs," most of which could be easily corrected.

BUGS

• The very small batteries are surprisingly long-lived. The "B" battery (95¢) lasts for about 40 hours, and the "A" battery (20¢) lasts about three hours. But replacements, particularly for the "B" battery, are not generally available except from the Belmont Radio Corporation. A satisfactory substitute for the original "B" battery is the *Eveready* 412E (sold by many hearing aid manufacturers for about $1.25); two 10¢ pencil flashlight cells can be used if the special "A" battery is not available.

• Though the earpiece of the *Belmont* is adequate, the quality of the reception would be improved considerably with an individually molded hearing aid insert. Those who own a hearing aid may be able to interchange the earpiece on it with the one furnished simply by snapping one off and snapping the other into place.

• The cord and earpiece are permanently attached to the radio and they cannot be unplugged, nor is there any other arrangement provided for such storage as would keep the earpiece from dangling.

• The radio is somewhat difficult to tune when in carrying position, since the dial is very small and is not illuminated. Tuning would be easier if the tuning knob were provided with ridges or other means to aid in touch tuning.

• The volume knob on the sample tested was rather loose, so that the volume kept changing as a result of friction between the knob and the clothing. A stepwise volume control would improve this condition.

• Although the manufacturer's pamphlet refers to the "click" of the on-off switch, there was practically none on the sample tested, and since there was no indicator to show when the radio was on or off, it would be very easy to leave it on when not in use. Even so simple a device as a painted on-off indicator would be an improvement.

• The large thumb screw which holds the radio and case together was very difficult to replace after removal. Since this must be done every time new batteries are needed, the replacement constitutes an unpleasant chore.

• Though the premanufacture announcement made by the Belmont Company in October, 1945, set the price of the midget radio at $30, its market price is $65. Although this price is low as compared to that of most hearing aids on the market, with which it is comparable in mechanical production and design, $65 is rather steep for a radio of such limited usefulness.

Despite these difficulties, however, the *Belmont Boulevard* is quite a lot of radio for the space it takes. And the very fact that it has been produced should provide impetus for other manufacturers to produce high-quality, subminiature radios.

Bread & Butter and Consumer Reports

Beginning in April, *Bread & Butter* will be discontinued as a separate weekly publication, and will be made a regular part of the monthly *Consumer Reports*. The monthly *Reports* will be enlarged, and will contain, in addition to a *Bread & Butter* section, many new sections and departments (see statement on inside of front cover).

Effective immediately, therefore, subscriptions and renewals will be accepted only for the enlarged *Consumer Reports*.

PRESSURE COOKERS

Many new pressure cookers have come on the market, some of them convenient and well-designed; others are not only inconvenient, but also hazardous to use

Several new members have been added to the pressure cooker family since CU made its first report on postwar models of pressure cookers (see the *Reports*, May 1946). And the experience gained in testing these devices has enabled CU technicians to make certain improvements in testing and evaluating them. But despite the innovations and improvements, the *Mirro-Matic* still holds first place among all the pressure cookers tested.

Close on its heels, however, is the new *Revere Ware* model—the first non-aluminum pressure saucepan on the market. This cooker, like other *Revere* pots and pans, is made of stainless steel, with a copper-clad bottom. In basic design, it is quite similar to other pressure cookers, though the details of its seal and the off-center location of its pressure gauge are new.

SAFETY AND CONVENIENCE

Safety and convenience depend mainly on the type of cover and the method of sealing the pot. The absence of burn and scald hazards were given major consideration. Point scores for convenience were based on the ease with which the cover could be adjusted and the seal effected, the ease with which the gauge could be placed, removed, adjusted or maintained at desired pressure, ease with which gaskets and other parts could be replaced, and ease of carrying and cleaning.

Since a pressure cooker becomes extremely hot during cooking and a good deal of steam is released when the cover is removed, it should have long, insulated handles, countersunk screws and simple sealing devices. Underwriters' Laboratories do not yet have specific minimum requirements for safety, although they state that none of the pressure cookers which they have tested and approved permitted abnormal amounts of pressure (over 50 pounds) to build up within the pot .The safety valves on all cookers tested by CU blew either under or near this figure, except for the *Time Saver*, which blew at 75 pounds pressure. (A safety valve should be adjusted so as to blow out and relieve the pressure long before it becomes strong enough to force out gaskets or blow the lid off the pot.)

VARIABLE GAUGE

In more and more cookers, the variable gauge, which permits cooking at pressures lower than 15 pounds, is being used. This allows for better control of cooking time. The *Presto* cooker now comes equipped with a variable gauge. Of the five new cookers tested, only the *Co-op* and the *Amparo* have nonvariable gauges set for 15 pound cooking pressure. However, the *Mirro-Matic* has the only gauge which maintains the pressure at 5, 10 or 15 pounds without constant heat adjustment. Spring-type gauges need constant attention to maintain different pressures.

Covers which involved handling of hot metal, or danger of contact with hot metal, and pressure cookers with short handles, were rated low in safety as well as convenience.

The homemaker who works at a full time job will find the pressure cooker of great value, especially in the preparation of meat dishes. But she must not be misled by the cooking chart into thinking that she can prepare a pot roast or meat loaf in 15 or 20 minutes. Meats which are cooked in a pressure cooker will appear grey and unappetizing unless they have been thoroughly browned in the open saucepan. If onions are prepared with the meat, they must also be browned. This adds at least 15 to 20 minutes to the cooking time. With the time required to bring the pot to cooking pressure, and to allow it to cool off afterward, the time of preparation is about an hour.

Vegetables which require a relatively short cooking time (peas, asparagus, cabbage, etc.) will actually take up more of the cook's time when a pressure cooker is used. Instead of being able to put the vegetables on to cook and then continue with the preparation of the meal, the housewife must watch the clock for two or three minutes to prevent overcooking. Some frozen foods cook so quickly under pressure that the housewife must almost stand and count time.

Other limitations of the pressure cooker are: (1) It is difficult to season food during the cooking process. (2) Foods which tend to froth may carry small quantities of food into the valve and clog it. (3) Despite advertising claims, it is impossible to duplicate any cooking process other than boiling or steaming.

THE RATINGS

In the following ratings, the 1947 *Buying Guide* resumés on pressure cookers, discussed in the May, 1946, *Reports*, are repeated. If additional discussion or more details on these cookers are desired, it is suggested that the reader refer to the article and ratings in that issue.

ACCEPTABLE

(In estimated order of merit)

These two cookers are considered to be outstanding in safety, convenience and construction.

Mirro-Matic[1] (Aluminum Goods Mfg. Co., Manitowoc, Wis.). **$12.95. Seal** effected by slip clamps. Convenient weight-type pressure gauge with no moving parts, for 5, 10 or 15 lb. pressure. Safety valve blew at 20 to 24 lb. Fairly high water evaporation rate. Handles and gasket easily replaceable.

Revere Ware (Revere Copper and Brass Inc., Rome, N.Y.). $15.95. Capacity 4 quarts. Seal effected by placing cover under flange (lip around back half of cooker) and turning until handles of pot and cover lined up. Projection under pot handle, fitted under similar

one on pot, prevented opening with handles in alignment. Pressure gauge was hinged on cover and fitted over rubber or synthetic washer shaped to receive pointed bottom of gauge. Pointer indicated pressure of 5, 10 and 15 lb. Weight of gauge calibrated to allow excess steam to escape and hold pressure at about 18 lb. Very low evaporation rate and very little heat was needed to maintain pressure. Safety valve blew at 54 lbs. Gasket

The Revere

easily replaced. Handles riveted, impossible to replace. Food platform provided. Easy to clean and use.

These four cookers are considered to have good safety, convenience and construction characteristics.

Maid of Honor[1] Cat. No.—4682 (Sears, Roebuck). $10.95 plus postage. Seal effected by slip clamps. Pressure gauge accurate, marked in 1 lb. gradations up to 19 lb. Heat must be regulated for desired pressure. Care required in handling gauge. Safety valve blew at 42 lb. High water evaporation rate. Gasket and handles easily replaceable.

Presto[1] (National Pressure Cooker Co., Eau Claire, Wis.). $12.50 in cast aluminum, $12.95 in pressed aluminum. Seal effected by slip clamps. New Presto (model sixty) has gauge with three bands which rise to show 5, 10 and 15 lb. pressure. The old model pressure gauge had one cooking pressure set for 15 lb. Heat must be regulated to maintain desired pressure. Care required in handling gauge. Gauge accuracy variable. Safety valve blew at 45 lb. High water evaporation rate. Handles and gasket easily replaceable. Pressed aluminum cover difficult to clean.

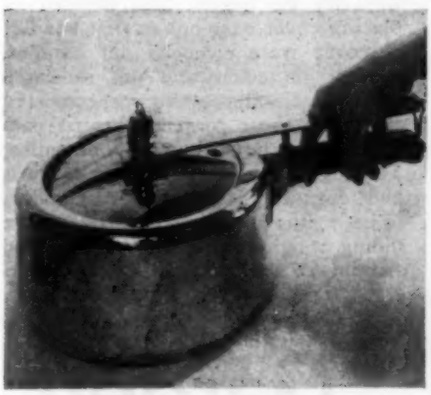
Wear-Ever[1] (Aluminum Cooking Utensil Co., New Kensington, Penna.). $13.95. Curved steel spring-action cover fitting inside pot. Seal effected by squeezing handles together. Weight-type pressure gauge to maintain cooking pressure at 15 lb. Safety valve blew at 33 lb. Low water evaporation rate. Pot handle impossible to replace,

[1]For more detailed description, see the *Reports*, May, 1946.

The Wear-Ever

cover handle easy to replace, gasket difficult to replace. No rack.

Universal[1] (Landers, Frary & Clark, New Britain, Conn.). $11.95. Oval cover fitting inside pot opening. Seal effected by squeezing handles together. Weight-type pressure gauge to maintain cooking pressure. Excessive heat lifted gauge rapidly and kept it up until enough steam escaped to lower pressure to 8 lb. before gauge dropped. Safety valve blew at 42 lb. Low water evaporation rate. Pot handle easy to



The Universal

replace, cover handle breakable and impossible to replace, gasket difficult to replace.

The following cookers are considered to have fair safety, convenience and construction characteristics.

Magic Seal[1] Cat. No.—6832L (Montgomery Ward). $10.50. Seal effected by slip clamps. Handles too short; got hot. Opening and closing had to be done carefully to avoid touching hot metal. Gauge consisted of weight with rising pressure indicator. Heat regulated to keep pressure constant. Care required in handling gauge. Safety valve blew at 48 lb. Low water evaporation rate. Handles and gasket easily replaceable.

Co-op Cooker (National Co-operatives Inc., Chicago). $12.50. Capacity 4 qt. Seal effected by slip clamps, engaged by turning handles until cover handles were above pot handles. Pressure gauge weight with spring control indicated rise in pressure. Fifteen pound cooking pressure, indicated by red line when pressure at 15 lb. Care required in handling gauge as accuracy was affected by rough use or dropping. Heat had to be regulated to maintain

The Co-op

cooking pressure. Low rate of evaporation. With vent closed, safety valve blew at 50 lb. Handles on cover and pot heated up during use; screws in handle not countersunk and got extremely hot. Slight burn hazard.

Amparo (Merit Machine & Metal Works, Brooklyn). $12.95. Capacity 4 qt. Seal effected by slip clamps engaged by placing cover over pot and turning until handles of pot and cover were in line. Handles curved downward, making pot awkward to carry. Pressure valve consisted of a ball held in a countersunk hole by a spring. Ball released by turning an ell-shaped lever permitting ball to rise. With vent closed, the safety valve blew at 43 lb. Cooking pressure maintained at 15 lb. with high or medium heat. Low rate of water evaporation. Handles and gasket easily replaced.

NOT ACCEPTABLE

The following brands were judged "Not Acceptable" for the reasons stated:

Pressur-Seal[1] (Aluminum Products Co., La Grange, Ill.). $11.95. Capacity 7 pt. Removal and replacement of oval cover difficult; cam arrangement raised cover which fitted into pot against overhang of pot. Cover had short wooden handle; became hot during use—a burn hazard. Manipulation required to take cover out of pot presented scald hazard. Impossible to tighten cover without holding the two hot cover hooks in place. Weight-type gauge. No food platform provided.

Karen Dial-O-Matic Kooker (Koons-Beebe Associates, Inc., N. Y.). $12.50. Capacity 4 qt. Seal effected by slip clamps, engaged by turning cover handle to position directly above handle of pot. Pressure gauge con-

The Dial-O-Matic

sisted of weight which controlled a ball bearing resting over a countersunk hole in cover. Weight allowed ball bearing to rise to five different heights, adjusting steam pressure in the cooker. No pressures given with these positions, but test gauge disclosed them to be 6, 9, 11, 13 and 15 lb. Ball bearing sometimes held tightly to hole, when pressure was allowed to decrease gradually, thus creating vacuum inside pot. This makes removal of cover difficult. Ball must be dislodged by a knife edge or other mechanical means before cover can be removed. Fairly high water evaporation rate at 15 lb. pressure. However, more steam escaped at lower pressures 1 cup of water evaporated completely when cooker was used at 11 lb. pressure for 20 minutes. When vent in safety valve was closed, gasket blew out of side of pot at 20 lb. pressure. This is a serious scald hazard.

Time-Saver[1] (Traubee Products, Inc., Brooklyn). $13.95. Seal effected by slip clamps. Weight-type pressure gauge with two removable slip rings which permitted adjustment to 5, 10 or 15 lb. Gauge and rings difficult to handle because they got very hot. Heat adjusted to maintain pressure with minimum evaporation of water. Safety valve allowed pressure to rise to 75 lb. without blowing, considered too high for safety. Low water evapooration rate. Handles and gasket were easily replaceable, but gasket tested did not fit well.

The Merit

Merit[1] (Merit Machine & Metal Works, Brooklyn). $12.95. Nonremovable pressure gauge marked in 5 lb. gradations up to 20 lb. Difficult to clean cover without getting water into gauge. Seal effected by four screw clamps similar to old-style canning pressure cookers; fell off. Screws got hot during cooking, and picking them up presented burn hazard. Plastic wing nuts broke when dropped. Pressure regulated by adjusting heat. Casting of pot poor.

Ekco[1] (Ekco Products Co., Chicago). $13.95. Spring action forced cover against overhang of pot. Sliding rod fitted into hole of handle and kept cover closed. To remove cover, it was necessary to depress hot plastic knob on cover—a burn hazard. Manipulation to open pot, a scald hazard. Screws on pot—a burn hazard—made of steel. The threads were easily stripped, and once gone, handles could not be replaced. Pressure gauge so set that when water was run over cover some entered pot. Required high heat to keep at 12¾ lb. maximum pressure.

During Seal-O-Matic (During Developments Inc., Syracuse, N. Y.). $13.95. Capacity 4½ quarts. Seal effected by placing cover over pot so that handles of cover were close to pot handles. Arrows on cover and pot indicated position. Handles on cover consisted of knobs; these turned eccentric cam which fitted into groove in pot handles. Turning of knob caused pot to turn and engage slip clamps—a cumbersome method. Gauge consisted of a sliding weight on beam. Weight fixed amount of steam allowed to escape

The Seal-O-Matic

and controlled pressure in the pot. Beam marked in 5, 10 and 15 lb. gradations. Tests indicated that the 5 lb. marking would fluctuate between 5 and 8 lb. according to the amount of heat applied. The 10 lb. marking fluctuated between 9½ and 11 lb. The 15 lb. marking allowed sufficient steam to escape so that pressure never rose above 14 lb. regardless of heat applied. High evaporation rate at 15 lb. marking—one cup of water completely evaporated after 10 minutes of cooking. With vent closed, safety valve blew at 40 lb. Handles small and got warm, but not uncomfortable to handle if care is taken not to touch cooker while opening. Rapid dissipation of steam by lifting weight caused steam to escape horizontally—a scald hazard.

Garden Supplies

Some recommended sources for seed, nursery stock, and garden tools

February is the month for planning the garden, making lists of necessary supplies, and sending orders. To gardening enthusiasts, this is one of the most delightful of indoor sports. There is good reason for attending to it early this year, since stocks of almost everything are limited.

Your State home gardening bulletin and a good book will help in planning your vegetable garden. Nissley's *Pocket Book of Vegetable Gardening* at 25¢ (Pocket Books) and Tiedjens' *Vegetable Encyclopedia* at 69¢ are still "Best Buys." Send to the Extension Service of your State Agricultural College for the list of available publications, and choose your own free reference library.

Vegetable Seeds

There is less seed in the packets this year. The following sources of supply are rated for the quality of their packet seed.

EXCELLENT SOURCES

Joseph Harris Co. (Rochester, N. Y.).

Ferry-Morse Seed Co. (Detroit and San Francisco). The best commission packeters.

Francis C. Stokes Co. (Moorestown, N. J.). Tomato seed only.

GOOD SOURCES

Eastern States Farmers' Exchange (Springfield, Mass.). Sells only in its territory: all New England, Md., Del., and all Penna., except 13 counties bordering N. Y. State. For two years, mixed varieties have been found in their packets of corn. Their other seed is excellent.

Robson Seed Farms (Hall, N. Y.). Excellent for hybrid corn.

F. H. Woodruff & Sons (Milford, Conn.).

O. H. Will & Co. (Bismarck, N. D.) Varieties for a short growing season and heat. Not good south of NYC.

FAIR SOURCES

Abbott & Cobb (Philadelphia).

Comstock Ferre Co. (Wethersfield, Conn.).

Alexander Forbes & Co. (Newark, N.J.).

Peter Henderson (NYC).

Walter L. Schell (Harrisburg, Penna.).

Vaughan's Seed Store (Chicago and NYC).

NOT GENERALLY ACCEPTABLE

Some seed may be good, but quality is too variable at best.

Breck's (Boston).

W. Atlee Burpee Co. (Philadelphia).

Lakeshore Seed Co. (Dunkirk, N. Y.).

The great majority of city seed stores.

The great majority of commission packeters.

VEGETABLE VARIETIES

In selecting vegetable varieties, be skeptical about catalog descriptions. Inexperienced gardeners should be guided by the lists in their State home gardening bulletin, and never plump for novelties.

Sources of flower seed will be listed in a forthcoming issue.

FRUIT

In general, standard fruit trees with their many pests are too hard for home gardeners to care for, and custom spraying is expensive and seldom satisfactory. Dwarf apples (on *Malling IX* understock) are desirable, but in practice, the "dwarf" trees you buy may grow surprisingly big because the understock was not *Malling IX*, as represented, after all.

A "five-in-one" apple tree with five varieties budded on it is usually a poor buy, because some or all of the buds are likely to die. If you want such a tree, insist on having one which has been grown a year in the nursery after the budding operation, and still has five live shoots.

Small fruits are much easier to grow than tree fruits. Strawberries, grapes, currants, and gooseberries are easiest and give the greatest return per square foot of ground.

An early order by mail to one of the recommended nurseries, even though it is pretty far from your home, is better insurance of quality and trueness to name than direct purchase from a nearby nursery during the Spring rush. When ordering from a distance, don't be misled by catalog descriptions into ordering varieties not suited to your growing conditions. Decide in advance, with the help of your State bulletin of fruit varieties, what kinds you want, and stick to them. To be sure of replacements in case of mistakes in variety, keep the invoice and leave the label on the plant.

Fruit Nurseries

EXCELLENT SOURCES

SMALL FRUITS

W. N. Scarff's Sons (Carlisle, Ohio).

Andrews Nursery (Faribault, Minn.).

GRAPE SPECIALIST

West Hill Nurseries (Fredonia, N. Y.).

STRAWBERRY SPECIALISTS

George Rennie (Andover, Mass.). Few varieties, A-1 quality.

Rennie Bros. (Andover, Mass.).

Walter K. Morss (Bradford, Mass.).

W. F. Allen Co. (Salisbury, Md.).

TREE FRUITS

(*Do not buy cherries from a Southern nursery.*)

Enterprise Nurseries (Wrightsville, Penna.).

I. E. Ilgenfritz' Sons Co. (Monroe, Mich.).

GOOD SOURCES

SMALL FRUITS

Ackerman Nurseries (Bridgman, Mich.).

Lovett's Nursery (Little Silver, N. J.).

Oak Hill Nursery (New Buffalo, Mich.).

TREE FRUITS

Root's Nurseries (Manheim, Penna.). Very small nursery, excellent stock, many varieties, but few of a kind.

Greening Nursery Co. (Monroe, Mich.).

Bunting's Nurseries (Selbyville, Del.).

Bountiful Ridge Nurseries (Princess Anne, Md.).

Adams County Nursery & Fruit Farms (Aspers, Penna.).

Worley's Nurseries (York Springs, Penna.).

Kelly Bros. Nurseries (Dansville, N.Y.). (Also small fruits.) Offers dwarf apple trees. Poor service may be experienced on small orders.

Malony Bros. Nursery Co. (Dansville, N. Y.). (Also small fruits.) Offers dwarf apple trees, but **Malling** stocks are mixed. Poor service may be experienced on small orders.

NOT ACCEPTABLE

Stark Bros. (Louisiana, Mo.).

Chase Bros. Nursery (Rochester, N. Y.).

Waynesboro Nurseries (Waynesboro, Va.).

Ten Cent Stores, Department Stores. Handle leftovers.

Mail Order Houses. Stock sometimes well-grown, but packing likely to be careless, and replacements hard to get.

TOOLS

An iron rake (14 to 16 teeth), a good spade, and a lightweight hoe are the only indispensables, but in vegetable gardens, it saves time to have a scuffle hoe (if the soil is loose and not too stony) or a wheel cultivator. You'll probably want a strong trowel and a garden line as well. The hoe should be strong, and should feel well-balanced and comfortable when held in position for working. Aluminum and stainless steel are new luxury materials for tools, not worth the price from a practical standpoint. Old-fashioned tools are good for a great many years of service if they are well-cared for, and excessive lightness counts less than good balance in a garden tool.

Wheel and Rotary Cultivators

RECOMMENDED

Low Wheel de Luxe Cultivator (Sears-Roebuck). Standard type, very strong and well-balanced. 1946 price, $9.40.

Rotary Cultivator No. 10 (Barker Mfg. Co., David City, Neb.). The best hand cultivator for soil with no large stones. Pushes like a lawn mower. 1946 price, $7.75.

Rotary Cultivator (Montgomery Ward). Same idea as the **Barker** model, but not as sturdy. 1946 price, $4.95.

NOT ACCEPTABLE

New Bacon Hand Cultivator (New Bacon Mfg. Co., Royal Oak, Mich.). "The World's Lightest," of aluminum, but very hard to push. Comes knocked down, with innumerable nuts and bolts, and a problem to assemble. $12.75.

THE GARDEN MEDICINE CHEST

Buy basic spraying and dusting materials early, for supplies are still short. You will need the following:

1. Nicotine sulfate (*Black Leaf 40* is best) or fresh nicotine dust for aphids (plant lice).

2. For ornamentals only: a choice of 85-15 sulfur lead arsenate dust, sulfur-rotenone, *Fermate-DDT*, or sulfur-DDT dusts, to care for almost any trouble above ground except aphids. If you do not want dust, *Nicotine-Pyrox* is an all-round spray for ornamentals, and so is *Triogen*, but *Triogen* is very expensive because a whole new kit must be bought when one of the ingredients gives out.

3. For the vegetable garden, a rotenone spray or dust containing 0.75% rotenone *and no sulfur*. A "Best Buy" is *NNOR Garden Spray*. Avoid *Rototec Garden Spray* which contains a synthetic sulfur compound harmful to many vegetables.

4. A neutral copper spray or dust for vegetable diseases.

5. *Semesan* for seed treatment of any vegetable except lima beans, which must have *Spergon*. Avoid copper dusts, which injure many vegetable seeds.

The above will take care of common troubles. For special problems, special materials can be purchased later when required.

SPRAYING AND DUSTING EQUIPMENT

You should have:

1. *A plunger dust gun* (*Feeney* or *Hudson* is good), or a rotary duster.

2. *A good sprayer*. The four-gallon *Brown Open-Hed* compressed-air sprayer is probably the best of its type; knapsack sprayers are still better but expensive. Both kinds are heavy to carry. The *Harco* sprayer is a good small hand sprayer.

If you cannot have both a sprayer and a duster, buy a duster.

Send for the latest revised pest control bulletin from your State Agricultural College. This is your best authority for methods of control. Cynthia Westcott's *"Gardener's Bug Book"* (Doubleday, 1946, $4.95) is good for its illustrations and list of host plants, but pretty expensive when compared with free State publications.

Bath Preparations

CU's laboratory, with the aid of a perfume consultant, evaluates bath salts and bubble baths

In this age of atomic bombs, newspaper wars and economic and political strains, an article evaluating bath preparations would seem to be on the frivolous side. However, medical science has always recognized that a hot bath has a salubrious, relaxing effect. And who can say that a bath of pleasantly-perfumed, softened water, foamy with bubbles, does not help to ease the kinks and knots resulting from the tensions of modern life?

Most bath salts and bubble baths have water-softening qualities. This is especially valuable in hard water areas. All the bath salts and the seven bubble bath preparations for which water-softening properies were claimed, were tested for this ability by CU. Each bath preparation was dissolved in standard hard water and a small amount of soap solution was added. If curd formed, it meant that the water had not been softened.

Five of the 27 bath salts (*Twang, Jean Nate, Le Blume, Milady,* and *Flower of the Morning*), and one of the bubble baths (*Helena Rubinstein Apple Blossom Foam Bath*) did not soften hard water.

The various products were also tested to determine acidity or alkalinity. All but one (*Elizabeth Arden June Geranium Bath Salts*, which was somewhat alkaline), were satisfactory in this respect.

You Asked for It

For years, now, CU readers have been asking for reports on bath salts and bubble baths. CU's Technical Control Committee, which decides such things, said no —until the number of requests made it clear that a very great many readers disagreed with the judgment of the TCC and wanted a report on bath preparation. So here it is.

BATH SALTS

Primarily, a bath salt should be a water softener. In addition, it should have an adequate concentration of a pleasant-smelling perfume, should dissolve easily, should have no irritating effect on the skin, should not cake or dry out.

Although such water softeners as washing soda (carbonates) or phosphates are quite satisfactory, manufacturers of bath salts often employ sodium sesquicarbonate, a crystal combination of sodium carbonate and sodium bicarbonate. This compound fulfills the requirements listed above. Sufficient added perfume is retained, because of the relatively great surface area of the needlelike structure of these crystals, to preserve the scent when the preparation is diluted with a large amount of water.

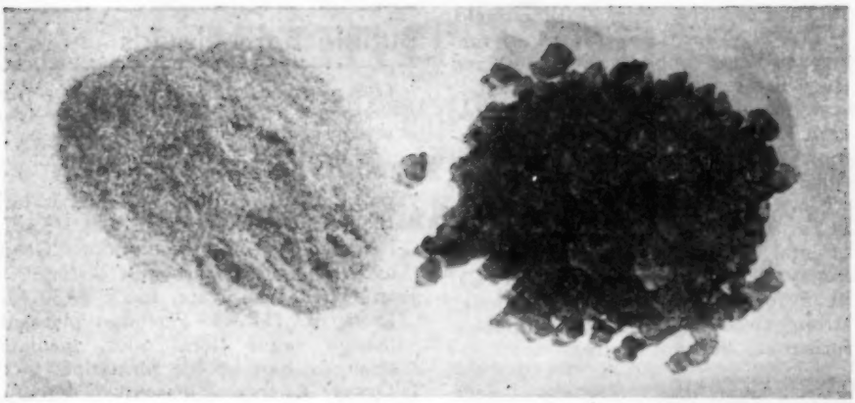
CU's tests on cosmetics have often revealed that high price does not guarantee high quality. The cheapest brand of bath salts tested (*Wrisley's*) and the most expensive (*Renee Thornton*) were of about equal quality. Both were water softeners and both had fair quality of perfume.

Only two of the 27 bath salts carried directions for use. In most cases, one ounce is sufficient for a bath.

BUBBLE BATHS

A good bubble bath preparation should have all the qualities required of bath salts, plus the ability to produce abundant and lasting foam. Liquid and solid bubble bath preparations usually contain both a synthetic foaming agent and a water softener. Of the 49 products examined, only 11 gave good bubble formations. About half the number of products tested were poor in this respect, and the rest were only fair.

The foam-forming quality was measured immediately after the bubbles appeared, and again after an interval of thirty minutes. The amount of foam formed depended not only on the particular preparation used, but also on how it was mixed with the bath water. Directions vary as to how much of the preparation should be used (an ounce of solid and a tablespoon of liquid bubble bath preparation are usually sufficient) and whether it should be added to a small amount of water or put into the dry tub. But all agree that after the bubble bath has been added, water should be run in with the greatest force possible. No matter how much foam is formed, or how lasting it



"Sesquicarbonate" crystals (left), with their greater surface area, hold more perfume than the larger crystals (right).

may be, however, the bubbles usually break as soon as soap is used.

Again cost had little relation to quality. The most expensive bubble bath tested (*Mist of Dawn*), though it had fairly good perfume, did not form very much foam. Another brand (*Jealousy*) at one-third the cost, had excellent foam-forming properties, although no perceptible odor remained when it was diluted with the bath water.

Since perfume is such an important factor, bath preparations were evaluated on the basis of type, quality and strength of perfume by CU's perfume consultant. Strength and quality of perfume were evaluated with the salts dissolved in water, in about the same concentration they would be in a bath. Under these conditions, many preparations were so slightly perfumed that it was difficult to determine the quality or character of the fragrance. Some scents were so weak that their odor was imperceptible in the bath.

In the ratings which follow, the products are separated into groups, according to the quality of the perfume as judged by a perfume expert. Within each group, they are listed in order of approximate cost per bath. Since preference in perfume is a highly individual matter, these ratings are intended as a general guide, rather than as an absolute standard for choice.

RATINGS

Bath Salts

(Ratings are in order of increasing cost per ounce within each group. One ounce is generally about enough for one bath.)

GOOD PERFUME

Jasmine by Lorie (Lorie, Inc., Boston). 50¢ for 10 oz. (5¢). Perfume: gardenia type floral bouquet; strong.

Early American Old Spice (Shulton, Inc., Hoboken, N. J.). $1 for 14 oz. (7.1¢). Perfume: woody spice; medium strength.

Yardley's Old English Lavender (Yardley, NYC). $2.50 for 2 lb. (7.8¢). Perfume: straight cologne; strong.

L'Origan (Coty, NYC). $1 for 12.7 oz. (7.9¢). Perfume: fresh, lemony floral, medium strength.

Pink Clover Bathsheen (Harriet Hubbard Ayer, NYC). $1 for 9 oz. (11.1¢). Perfume: fresh, sweet floral bouquet; strong.

Lentheric Tweed (Lentheric, NYC). $1.50 for 8 oz. (18.8¢). Perfume: tweedy, woody bouquet; medium strength.

The following brands did not soften very hard water:

Twang Bath Fragrance (Spooner, NYC). $1 for 1 lb. 4 oz. (5¢). Perfume: oriental bouquet; strong.

Jean Nate (Jean Nate, Inc., NYC). $1.50 for 1 lb. 2 oz. (8.3¢). Perfume: straight cologne; strong.

FAIR PERFUME

Wrisley's Perfumed Bath Crystals and Water Softener Carnation (Wrisley, Chicago). 47¢ for 4 lb. (0.7¢). Perfume: vague; weak.

Maison Jeurelle Perfumed Water Softener (Maison Jeurelle, Inc., NYC). $1 for 5 lbs. (1.3¢). Perfume: vague floral odor; very weak.

Lady Charm Gardenia, Apple Blossom (Eaton Products, NYC). 29¢ for 1 lb. 2 oz. (1.6¢). Perfume: vague, nondescript; weak.

Waldorf Gardenia (Century, Chicago). 39¢ for 1 lb. 2 oz. (2.2¢). Perfume: vague floral odor; weak.

Bathasweet Garden Bouquet (Bathasweet Corp., NYC). 89¢ for 1 lb. 4 oz. (4.5¢). Perfume: mild, vague floral odor; medium strength.

Pinaud Apple Blossom Bathmeal (Pinaud, NYC). $1 for 1 lb. 4 oz. (5¢). Perfume: slightly woody bouquet; medium strength.

Lavender (Langlois, Inc., Boston). 69¢ for 13 oz. (5.3¢). Perfume: straight cologne, medium strength.

Cara Nome (Langlois). $1 for 1 lb. 1 oz. (5.9¢). Perfume: muddled bouquet, medium strength.

Evening in Paris (Bourjois, NYC). $1 for 10 oz. (10¢). Perfume: harsh, floral, gardenia, strong.

April Showers Bath Softener (Cheramy, NYC). $1.25 for 12 oz. (10.4¢). Perfume: spicy bouquet, medium strength.

Chantilly Bath Softener (Houbigant, NYC). $2.50 for 1 lb. 4⅔ oz. (12.1¢). Perfume; muffled; weak.

Renee Thornton Orchidea White Orchid Bath Classique (Paramount Cosmetics, Inc., NYC). $1.85 for 8 oz. (23.1¢). Soapy spice odor, medium strength.

The following brands did not soften very hard water:

Le Blume Apple Blossom (Le Blume Co., NYC). 15¢ for 8 oz. (1.8¢). Three samples tested. Perfumes: faint carnation; vague rose; and medium strength floral.

Milady Carnation (Milady Cosmetic Co., NYC). 25¢ for 5 oz. (5¢). Carnation odor; medium strength.

POOR PERFUME

Queen Mary Rose Geranium (John Wanamaker, Philadelphia). $1 for 2 lb. (3.1¢). Perfume: strong, harsh, chemical, fruity odor.

Camellia (Delettrez, NYC). $1 for 13 oz. (7.7¢). Perfume: undefined odor, medium strength.

June Geranium (Elizabeth Arden, NYC). $2.50 for 1 lb., 8 oz. (10.4¢). Perfume: strong harsh fruity odor. Somewhat high alkaline reaction; might be drying to the skin.

4711 Eau de Cologne (Ferd. Mulhens, Inc., NYC). $2.20 for 1.63 lbs. (13.5¢). Perfume: undefined weak odor.

The following brand did not soften very hard water:

Flowers of the Morning Sweet Pea (Pickwick Charm Products, NYC). 25¢ for 11 oz. (2.3¢). Perfume: very weak gardenia odor.

Bubble Bath Salts

(Listed in order of increasing cost per ounce for solids. One ounce is generally about enough for one bath.)

GOOD PERFUME

Lander Spicy Apple Blossom (Lander, NYC). 25¢ for 1 lb. (1.6¢). Perfume: rose, medium strength. Fair bubble formation, but not lasting.

Follow Me Suivez Moi Bubble Foam (Varva, NYC). Two samples tested: both marked 4 oz. but actually contained 11 oz., $1 (9.1¢ based on weight found). Perfume: one sample strong crepe de chine; other sample gardenia type. Poor bubble formation.

Mountain Heather Bath Foam (Daggett & Ramsdell, NYC). $1 for 8 oz. (12.5¢). Perfume: apple blossom, medium strength. Good bubble formation.

You and I Bubbling Over (Frances Denny, Philadelphia). $1.50 for 9 oz. (16.7¢). Perfume: strong rather masculine, woody. Poor bubble formation.

Chantilly Effervescent Bath Tablets (Houbigant). $3.50 for 20 tablets (17.5¢ per tablet; 70¢ per oz.) Perfume: spice; medium strength. This product was not a bubble bath. Gas forms and effervesces through the bath as the tablet dissolves, but no layer of bubbles is formed on the surface of the water.

Lentheric Miracle and A Bientôt (Lenthéric). $1.50 for 1 oz. (21.4¢). **Miracle:** Perfume: strong floral odor; **A Bientôt:** Perfume: strong pleasant bouquet. Good bubble formation.

Orloff Attar of Petals (Jean Vivaudou Co., NYC). $2.50 for 10 oz. (25¢). Perfume: chypre type, medium strength. Good bubble formation, fairly lasting.

Ardena Fluffy Milk Bath (Elizabeth Arden). $6.50 for 1 lb. 2 oz. (36.1¢). Perfume: pleasant fresh fragrance, medium strength. Excellent bubble formation—the best of all tested.

FAIR PERFUME

Spooner's Bubble Foam Apple Blossom (Spooner, NYC). 44¢ for 14 oz. (3.1¢). Perfume: strong lilac apple blossom odor. Good bubble formation.

Le Blume Apple Blossom (Le Blume Co., NYC). 25¢ for 6 oz. (4.2¢). Perfume: floral apple blossom odor, medium strength. Fair bubble formation.

Foaming Bath Sachet Gardenia, Lavender, Honeysuckle, Carnation (Robert H. Clark Co., Beverly Hills, Calif.). 50¢ for 12 packages (9 oz.). (4.2¢ per package or 5.6¢ per oz.). Perfume: All odors weak. Honeysuckle and Carnation, vague bouquet; Gardenia, vague gardenia type; Lavender, weak floral. Fair bubble formation.

Luxor Apple Blossom (Luxor Ltd., Chicago). 50¢ for 9 oz. (5.6¢). Perfume: weak nondescript odor. Poor bubble formation.

Helena Rubinstein Apple Blossom Foam Bath (Helena Rubinstein, Inc., NYC). $1 for 14 oz. (7.1¢). Perfume: jasmine type odor, medium strength. Poor bubble formation. Did not soften hard water as claimed.

Black Magic (Bombi, NYC). $1.25 for 16 oz. (7.8¢). Perfume: heavy, gardenia odor, weak. Good bubble formation.

Seventeen (Jeurelle, Inc.). $1 for 8 oz. (12.5¢). Perfume: spice odor, medium strength. Poor bubble formation.

Forget Me Not (Primrose House, NYC). $1.50 for 8 oz. (18.8¢). Perfume: stuffy rose odor, medium strength. Poor bubble formation.

Tussy Be Mine Bubblessence (Lehn & Fink Products Corp., Bloomfield, N. J.). $1.50 for 6 oz. (25¢). Perfume: strong floral odor with fruity and spicy notes. Poor bubble formation.

Sweet Suggestion (Dorothy Gray, Ltd., NYC). $1.50 for 5¾ oz. (26.2¢). Perfume: fair to poor strong harsh lemon spice odor. Poor bubble formation.

Daredevil (Dorothy Gray, Ltd., NYC). $1 for 3½ oz. (28.6¢). Perfume: weak oriental odor. Poor bubble formation.

Nosegay (Dorothy Gray, Ltd., NYC). $1.75 for 5¾ oz. (30.5¢). Perfume: strong, sweet fruity odor. Good bubble formation, but not lasting.

POOR PERFUME

Bath Luxury Camellia (Delettrez). $1 for 16 oz. (6.3¢). Perfume: unpleasant barnyard odor, medium strength. Very poor bubble formation.

The following brands were so faintly perfumed that there was no odor when used at bath concentrations:

Lady Charm Pine and Bouquet (Eaton Laboratories, Merchandise Mart, Chicago). 10¢ for 11 oz. (0.9¢). **Bouquet** had poor bubble formation; **Pine** had fairly good bubble formation.

Ansehl's Apple Blossom (The Benjamin Ansehl Co., St. Louis). 25¢ for 8 oz. (3.1¢). Very poor bubble formation.

Milady Spice (Milady Cosmetics Co.). 10¢ for 3 oz. (3.3¢). Very poor bubble formation.

Tre-Jur Blue Pine Bouquet (House of Tre-jur, Inc., NYC). Container marked 4 oz., but actually contained about 15 oz. Price 59¢ (4¢, based on weight found). Poor bubble formation.

Jeurelle Central Park (Jeurelle, Inc.). 50¢ for 6 oz. (8.3¢). Poor bubble formation.

Jealousy (Blanchard, NYC). $1 for 7 oz. (14.3¢). Excellent bubble formation, second best of all tested.

Progress Report

Work on the following reports, among others, is either now under way or scheduled to begin soon:

- Television Sets
- Electric Refrigerators
- Electric Food Mixers
- Electric Clocks
- Wire Recorders
- Lens Coating
- Cameras
- Projectors for Color Film
- Frozen Foods
- Soluble Coffees

Bubble Bath Liquids

(Listed in order of increasing cost per tablespoon for liquids. One tablespoonful is about enough for one bath.)

GOOD PERFUME

"Spa" Bath Foam Pine (Waverly Labs., Inc., NYC). $1.75 for 1 pint. (5.5¢). Perfume: strong pine odor. Good bubble formation, but not lasting.

Jean Nate (Jean Nate, Inc.). $3.50 for 15 fl. oz. (11.7¢). Perfume: pleasant though vague floral odor, medium strength. Fair bubble formation.

D'Orsay Cherry Blossom (D'Orsay, Paris-New York). $1 for 4 fl. oz. (12.5¢). Perfume: rose odor, medium strength. Fair bubble formation.

Wistaria (Houbigant). $1 for 4 fl. oz. (12.5¢). Perfume: two samples tested: one, good strong floral, lilac-type odor; other, fair weak vague odor. Good bubble formation, but not lasting.

Jacologne (Jacqueline Cochran, Roselle, N. J.). $2.50 for 6 fl. oz. (20.8¢). Perfume: very good woody bouquet, tweed-type, strong. Good bubble formation, but not lasting.

Alexandra de Markoff Spring Goddess Bath Foam (Alexandra de Markoff, NYC). $1 for 2 fl. oz. (25¢). Perfume: very strong gardenia odor. Fair bubble formation.

Mist of Dawn Bath Foam (Kathleen Mary Quinlan, NYC). $3.50 for 4 fl. oz. (43.8¢). Perfume: good to fair lemon-spice bouquet, medium strength. Poor bubble formation.

FAIR PERFUME

Skylark (Barbara Gould, NYC). $1 for 9 fl. oz. (5.6¢). Perfume: fair to poor, weak, rather stale sweet bouquet. Poor bubble formation.

Evening in Paris Bubbling Bath Essence Bourjois, NYC). $1 for 8 fl. oz. (6.3¢). The two samples tested were quite different. Perfume: one, a bluish liquid, had a soft innocuous odor and very poor bubble formation. The other, a yellowish liquid, had a leathery odor and fair bubble formation.

Jennapine Swiss Pine (Jennapine Products, NYC). $1 for 8 fl. oz. (6.3¢). Perfume: pine odor; medium strength. Good bubble formation.

Thermopine Pine Needle (Matthew Products, Inc., NYC). $1 for 8 fl. oz. (6.3¢). Perfume: pine with camomile by-odor; medium strength. Very poor bubble formation.

Gold Tassels (Wrisley, NYC). $1 for 4 fl. oz. (12.5¢). Perfume: vague; weak. Fair bubble formation.

Sparkling Burgundy Bath (Prince Matchabelli, NYC). $1 for 4 fl. oz. (12.5¢). Perfume: vague floral odor; strong. Excellent bubble formation.

POOR PERFUME

Lady in the Dark Bubbling Bath Oil (Dorothy Gray, Ltd.). $2.50 for 4 fl. oz. (31.3¢). Perfume: very poor.

Buying Contact Lenses

First, be sure you want contact lenses, then consider carefully the costs, the different methods of fitting, and the steps to take in getting fitted

The contact lens is a shell of transparent material which rests upon the surface of the eye in such manner as to bridge the sensitive cornea and rest its weight upon the surrounding sclera, "the white of the eye."
—*Consumer Reports,* October 1946.

Contact lenses have not yet reached the stage where they can be considered a substitute for spectacles for most people. You may have read reports that over 100,000 pairs of contact lenses have been sold in the United States. But this doesn't tell you how many times the same individual was counted. Some people try several types of contact lenses before they are satisfied. Others have replaced lost or broken lenses. And a still larger number of those who have bought contact lenses have filed them away in their bureau drawers.

OPTIMISTIC CLAIMS

Overly optimistic individuals claim that the contact lens is a "newly perfected invisible lens which will enable 30 million Americans to throw away their spectacles." However, old-line medical practitioners limit the use of contact lenses to certain abnormal eye conditions. The real usefulness range of contact lenses probably lies somewhere between these two extremes.

In an article in the October, 1946, issue of *Consumer Reports,* Dr. Virginia Lubkin, an ophthalmologist, reported on the medical principles upon which contact lenses are based. The construction of the eye, abnormal eye conditions, and visual defects were discussed, as well as the physiological eye changes which occur when contact lenses are worn.

The present survey is intended as a supplement to Dr. Lubkin's article. Its purpose is to give you, the potential buyer, information which will help you decide whether or not contact lenses are for you. And if you decide that they are "just what you've been waiting for," this report will help you to know some of the "musts" before you go out to buy a pair.

A contact lens.

Twenty-four of the 34 listings which advertise contact lenses in the Manhattan Red Book Telephone Directory were investigated by CU, and other sources of information on contact lenses were checked.

There is fairly general agreement on certain points with respect to contact lenses:

First, contact lenses are of definite value in some eye conditions where adequate visual corrections cannot be made by spectacles. Second, almost all persons who cannot see except with contact lenses are able to use them satisfactorily. Third, plastic lenses are superior to glass ones. Fourth, there is no record of contact lenses having caused permanent eye injury.

DISADVANTAGES

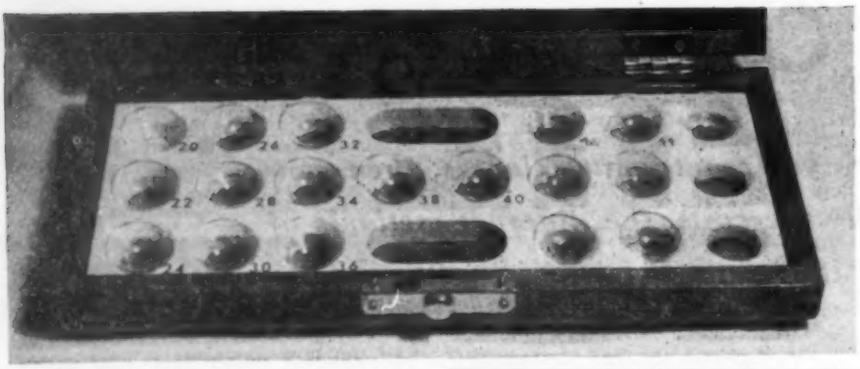
In only a few conditions do eye doctors consider contact lenses the only feasible means of providing necessary corrections. In other cases, cost and uncertainty of individual wearability must be weighed against the cosmetic and optical advantages. The conservative element among practitioners do not deny these advantages. But they feel that while there is no proof contact lenses have an injurious effect, they have not been in use long enough to rule out this possibility. Therefore, if vision is adequate with spectacles, they say that considerations of vanity or utility should not be placed before safety.

MEDICAL OPPOSITION

These doctors feel that the influence of many unknown factors in limiting wearing time makes the use of contact lenses impractical for the vast majority of persons. Finally, they fear that the increased sale of contact lenses by lay persons, without medical supervision, is dangerous to the public.

Despite all these things, and since the majority of ophthalmologists take a more optimistic view, there are many persons who want contact lenses. (See Dr. Lubkin's article, *Consumer Reports,* October 1946, for a more complete analysis of the utility of contact lenses.) An extremely nearsighted individual must wear spectacles with thick lenses. Such spectacles are not only unattractive, but they are also inadequate. With such spectacles clear vision is limited to the portion in the central area of the spectacle lens. Vision near the edge of the lens is distorted. The contact lens moves with the eye and offers a normal field of vision from every angle.

Many persons prefer contact lenses for occupational reasons. Stage and screen actors and public speakers may feel that spectacles detract from their appearance. Surgeons, aviators, seamen, and athletes who wear contact lenses find that the eyelids, acting as windshield wipers, keep the lenses free from steam, spray, or perspiration. Although there is no record of damage to the eye from contact lenses, several cases have been reported in which they have been used to protect the eye from injury.



The "trial case" which many optometrists use instead of impression molding to fit contact lenses. (Courtesy of American Contact Lens Company.)

The largest group of contact lens wearers consists of those individuals who need glasses for adequate vision but have a psychological aversion to spectacles. Old-fashioned medical men who reject psychiatric and psychoanalytic treatment are apt to dismiss such individuals as vain and even silly. But modern practitioners realize the importance of mental attitudes. They may even suggest the use of contact lenses where the patient's feelings of inferiority have been accentuated by the wearing of spectacles.

Because all these advantages have been glowingly publicized, many persons who wear spectacles have become anxious to exchange them for invisible contact lenses. One of the main factors which have limited the wider use of these lenses is cost. The price of a pair of contact lenses ranges from $125 to $200, with $150 being the most frequently quoted price.

WHERE TO GO

If you want to get contact lenses, first, go to your own eye doctor to have your eyes checked and, perhaps, fitted for the contact lenses. Few ophthalmologists are, however, trained to do the actual fitting. Therefore, your doctor will probably send you to a contact lens service. Here you will be fitted by a technician who will follow your doctor's prescription, and may even work under his direct supervision.

If you have been in the habit of going to an optometrist (a person trained in the correction of visual defects by the fitting of glasses), you may decide to go to him for your contact lenses. Not all optometrists are able to supply you themselves. They may also recommend a contact lens service. If you go to a contact lens company on the advice of an optometrist or other nonmedical person, be sure your eyes are first checked by a qualified ophthalmologist.

Some contact lens dispensers may tell you that they have an ophthalmologist "on call." While such an ophthalmologist may be competent and his advice unbiased, CU believes that it is preferable for the patient to have his own doctor prescribe and check the lenses. An ophthalmologist usually gets the contact lenses from the laboratory or manufacturer at a wholesale price. By getting your contact lenses through an ophthalmologist, you get the benefit of qualified medical advice, and you pay no more for the lenses than you would if you purchased them directly from the service yourself.

INVESTIGATE CAREFULLY

Once your eyes have been checked by a doctor, the whole field is open to you. Investigate your doctor's recommendation—but also investigate other sources. Check on the qualifications of the person who does the actual fitting. A long medical background is sometimes of less value than a wealth of experience in contact lens work.

When a price is given by the lens supplier, make sure that the price quoted applies in your particular case. Inquire about "extras." If you are extremely nearsighted or farsighted, or require a special cylinder correction for astigmatism, you may find your bill $15 to $75 more than you were told in the beginning. Not all contact lens suppliers make such additional charges. Sometimes a higher original price may be less than a lower one after all the charges are included. Don't be afraid to ask questions, and do a little simple arithmetic before you commit yourself.

In addition to the original basic cost of the lenses, the cost of replacing a lens which is lost or damaged through accident should be considered. Generally, the cost of replacement should be somewhat less than the original cost. Most contact lens dispensers will advise you to insure your lenses. The usual cost of such an insurance policy is $5 a year, or $12 for three years. If you already have an insurance policy which includes a "floater" provision, check with your insurance broker as to whether your contact lenses will be covered.

It is generally agreed that changes in contact lenses are required less frequently than with spectacles. It is important, nevertheless, to determine, in advance, the cost of regrinding contact lenses to accord with changes in vision. Most contact lens companies stipulate a charge, ranging from $5 to $25 per lens. A few services state that all subsequent regrinding of the contact lenses is included in the original cost.

In almost all cases, the patient is allowed as many visits as necessary to get a satisfactory fit. There have, however, been cases in which patients were billed for visits after the practitioner was satisfied, but the patient was not. To avoid future difficulty, be sure that the arrangements you make on all the above points are definitely agreed to—if possible, in writing—by the service.

All the sources visited by CU's investigators warn patients that they may not have aptitude for wearing contact lenses. If you insist that you still want contact lenses, you will then be expected to pay the full cost, whether you are satisfied or not. Only if it is so stipulated in advance, are you permitted to change your mind, or to refuse to accept unsatisfactory lenses without paying the full charge. In such a case, you may be billed for a minimum fee, which varies from $25 to $50.

BUDGET PLANS

A few services offer budget plans. Initial payments of $25 to $75 may be required, and most contact lens dispensers will want your bill to be paid in full before they will give you the lenses.

Up to 1930, there were only two varieties of contact lenses. The Muller lens, blown of glass, was an opaque shell with a transparent cornea for the iris and pupil. The opaque section which fitted over the sclera varied with each lens blown.

Finding a lens which would fit in both the corneal and scleral portions was therefore a tedious, hit-or-miss process. This tiresome procedure had to be repeated when the lens, which was made of glass, was broken, or when the glass became roughened by the chemical action of tears.

The second type of lens available at that time was the Zeiss ground lens. Being ground, the shapes and relations between the corneal and scleral sections could be controlled, and a great variety of combinations produced. All the Zeiss lenses were, however, spherical, whereas human eyes have different horizontal and vertical measurements

In 1933, a revolution occurred in the fitting of contact lenses. Dr. Dallos, of Hungary, developed a method for making a mold directly from the eye. This seemed to offer the answer to the problem of accurate fit. The next few years were devoted to improvement of the materials and techniques used in the molding process. However, a contact lens made from a molded impression did not always prove satisfactory. This meant that a patient had to go to a great deal of trouble and expense before he could learn whether or not he could wear the lenses.

The advocates of the impression technique prefer this method because the contact lens can then be molded to the irregular surface of each individual eye. This results in a snug fit which prevents the lens from touching the cornea when the eye moves quickly or jerkily.

There appears to be no proof, however, that harmful results occur when the contact lens touches the cornea. As a matter of fact, Dr. Dallos and other European investigators have been advocating a contact lens which is separated from the cornea by a thin layer of fluid.

USE OF ANESTHESIA

Until recently, the taking of an impression of the eye required the use of anesthesia. This could be administered only by a qualified medical doctor, and thus optometrists were prevented from fitting contact lenses based on impression molds. To overcome this limitation, a method of stamping lenses out of a thin sheet of plastic was devised. This enabled optometrists to stock a series of "trial-case" contact lenses which they could slip into the eye to determine the approximate fit. Since this method did not require anesthesia, an optometrist could fit contact lenses without the supervision of a doctor.

Advocates of the use of trial-case fitting generally claim that if an individual can wear a trial lens, he will also be able to wear the final corrected lens. Those who favor impression-molding believe that there is no satisfactory test for determining, in advance, the individual's reaction to the lenses.

Recent experimenters have devised a method of taking an impression of the eye which does away with the use of medication and medical supervision. There is also a new method of manufacturing lenses by grinding them from a solid piece of plastic instead of stamping or molding them over dies. This technique produces a thinner, clearer lens. Its developers claim that the thinness of the lens makes it lighter and thus less visible, more comfortable, less apt to sag, and less resistant to eye movements.

There appears to be no evidence, however, that the method of fitting or of constructing the finished lens has any effect upon its ultimate wearability provided the lens is well-fitted. Only a careful investigation of a large number of users of all types of lenses could throw any light on this question. No such study has been reported.

There are certain definite factors which influence wearing time regardless of whether the lens is made from an impression or selected from a trial-case; whether it is molded or ground. Since most persons who must wear contact lenses for adequate vision can use them satisfactorily, it can be deduced that the intensity of the desire to wear them is of prime importance. Nervous persons, and those who are afraid of the lenses, are not likely to have satisfactory adaptability to contact lenses.

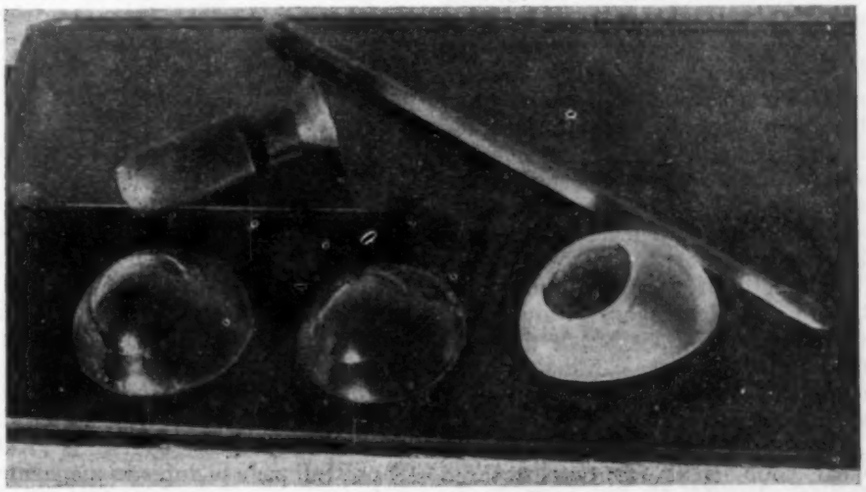
Fourteen of the 24 companies interviewed were willing to make estimates as to the average wearing time of the lenses. All were in agreement in claiming that more than half of the users of contact lenses are able to wear them at least four hours in one stretch. At the end of this period, the vision may become cloudy and rainbow effects may appear. Some users can correct the condition temporarily by changing the solution which fills the space between the cornea and the contact lens.

CLOUDING

After clouding or rainbow effects appear, the contact lenses must be removed. The length of time that must pass before they can be used again varies from immediate reinsertion with a fresh solution to a three-hour wait, with most people able to use them in 30 minutes. If the lenses are removed several minutes before the clouding occurs, they may be reinserted immediately with fresh solution and worn for a slightly shorter length of time. The process may then be repeated as long as necessary, with diminishing intervals.

Most people who purchase contact lenses must make several visits to the supplier before the optimum fit and wearing time has been achieved. In most cases (70%), the patient must make four or five visits, which may be spread over a period varying from three weeks to six months.

Let us assume that you have to get contact lenses. First you go to an



An early type of contact lens (right), and two more recent types of lenses with rubber inserter and glass removal rod.

eye doctor to have your eyes checked. Your vision will be tested and the correction you need determined. Your optimum vision may be so poor as not to warrant the purchase of contact lenses. This is unlikely, however, since all corrections made by spectacles can be made by contact lenses. If you are an older person who wears bifocal glasses, you will find it necessary to get a pair of spectacles to wear with your contact lenses for reading.

Once it has been decided that you can wear contact lenses, and the type of correction that will be made in the corneal section of the lens has been determined, you may be called upon to choose between impression-molding or trial-case fitting. About half of the sources investigated offered both methods. Optometrists feel that the trial-case method is adequate for 75% of their clients. If this method is used, a lens suitable for you may be found in about two or three tries, depending on the skill of the practitioner.

If the impression method is used, your eyes may or may not be anesthetized, and a mold made with a colloidal (jelly-like) substance. This usually takes about five minutes for each eye. Ophthalmologists who use this method claim that neither risk nor discomfort is involved.

CHECKING LENSES

When the lenses have been made by either method, they are checked on your eyes to see if they fit properly. Fluorescein (a substance which glows under ultraviolet light) is used to make certain that the sensitive area at the circumference of the cornea, where it joins the sclera, does not come into contact with the lens.

After all necessary adjustments have been made, your vision will be rechecked to see if your prescription has been properly ground into the corneal section. Then, if no changes are necessary, you will be given instruction in the technique of inserting and removing your lenses. Two half-hour periods are usually sufficient. The length of time you must wait before your lenses are ready varies with the method by which they are made. Most services can deliver your completed lenses in about ten days after your fitting.

To get the best results, you should wear your lenses for two or three hours at a time, with similar rest periods, for the first few weeks. The lenses should be worn every day, several times a day, to increase your wearing time and tolerance.

Since almost all contact lenses used today are made of plastic, they are unbreakable and not easily affected by body acids or temperature changes. Plastic lenses do, however, scratch more easily than glass ones. Except for deep scratches, this is of little importance, for hairline scratches on the inside surface are filled in by the buffer solution. Those on the outside of the lens are filled in by tears, maintaining an optically even surface.

Before you buy contact lenses, you should weigh both advantages and disadvantages. The most serious disadvantage, as already indicated, is that most people are unable to wear contact lenses more than four hours without removing them and changing the buffer solution. You may start out as an enthusiastic contact lens wearer, but eventually become annoyed with the necessity of carrying around a bottle of buffer solution and using it every few hours. If you can manage to get along without spectacles most of the time, you will be unwise to invest in contact lenses because the chances are that you will not persevere in their use.

Finally, and most important, if you think that the purchase of contact lenses will enable you to throw away your glasses—DON'T GET THEM! Most users (approximately 90%) of contact lenses *also* wear spectacles.

OBESITY

CU's Medical Adviser discusses obesity and its treatment; the problem must be solved in terms of food, not drugs, he writes

Nobody wants to be fat. Doctors deplore obesity because it is associated with a decreased life expectancy and a higher incidence of joint disorders, gall bladder disease, varicose veins, and heart trouble. Women not only do not like being overweight, but many will do almost anything to be over-slim. The chief motive for their adventures in reducing is less a drive to avoid the clinical consequences of obesity than to conform to the current social standards in weight and contour. An enormous merchandising-selling force flourishes in this country to exploit this social compulsion among women. Probably millions of dollars are spent each year in gymnasiums, "slenderizing salons" and beauty parlors for drugs, "seven-day reducing diets," and easy-reducing methods with or without special foods; for grape juice, vitamins, vibrators, fat-rollers, and what-not. Yet the one plain fact that can't be rolled away is that almost all this money is wasted. Many men and women will lose weight by one or another reducing system or food fad, but few—very few—will stay slim after the reducing course is over. Those full page pictures in magazines and newspapers showing Miss Buxom starting her slenderizing course with an over-abundance of avoirdupois and leaving as slim as a willow do not show Miss B six months or a year later—back again at her old habits and carrying her old circumference.

CONSERVATION OF ENERGY

"It should go without saying that alterations of body weight are, in the last analysis, entirely determined by the law of conservation of energy and matter." This statement by Dr. John Peters—a foremost investigator in the disorders of nutrition and metabolism—expresses the root and kernel of the problem of overweight. Translated into everyday English, it means that a person gains weight when he eats more food than his body needs. An excess of food (and this includes alcohol) is invariably deposited as fat. To lose weight, a person must reduce his food intake below the body's needs, so that the excess fat is metabolized or burned.

It is much easier to memorize the above statements or to say them backwards than it is to put them into effect. It is also easy enough to assert, as some doctors have, that there are really two kinds of overweight or obesity — one caused by greediness in eating, and the other designated by the lofty title "constitutional or endocrine obesity."

The former, say these doctors, requires a planned diet, the latter special drugs or gland extracts. Most obese persons will insist that they "really do not overeat." This leads to the inevitable conclusion that they are victims of the second category of obesity, and thus are particularly good subjects for gland or drug treatment—the easy way to reduce. Unfortunately, this classification of obesity does not stand the test of clinical practice. The laws of conservation of energy and matter cannot be waived by pretty classifications.

REASON FOR EXCESS

The real problem in the treatment of obesity is to find out why a person habitually eats in excess of his needs. Individual body needs with respect to calories and food vary a great deal from person to person. Physical activity is one factor influencing calorie needs—the greater the activity, the more food is necessary. The endocrine glands—thyroid, pituitary, adrenals, and gonads—also play a role, since they have a fundamental influence on the oxidation of food in the tissues. It is another matter, however, to say that these glands play a *decisive* role in causing obesity. That is undoubtedly true in a very small number of cases of obesity—but the number is so small, in fact, that the person with obesity may well dismiss it as a possible cause of his overweight condition. (In a recent study of obesity at Yale University School of Medicine—of a total of 25 patients with severely underactive thyroid glands—only one was overweight.)

Obesity results from eating more food than is required by the body. Failure to reduce must be ascribed mainly to inability to change permanently the dietary habits of an individual. Stated in another way, it is apparent that obese individuals prefer the pleasure of overeating to the advantages of normal weight. Psychiatry has thrown the clearest illumination on this important aspect of obesity. The pleasures of overeating can be understood only from the point of view of modern theories of personality development.

The human infant is born more helpless than other mammals. During the first part of its life it must be fed and cared for by adults. The growing child acquires the feeling that his parents are powerful, omnipotent beings whose help, comfort, and protection he can depend on in time of need. As the child gets older, he learns to feed himself, to distinguish different foods, and to know how to obtain pleasure and to avoid pain. An ego is developed that enables the child to master and orient himself to his surroundings. But the early passive, oral attitude of being fed and loved remains as a residue in the adult personality. This residue of primitive oral wishes varies in quantity in different persons.

Too often in our society, the adult gets into life-situations in which he is again as helpless as he was as a child. These difficult life-situations are usually the result of social forces or tensions created by society. Nervous tension and neuroses are inevitable and very widespread in an intensely competitive society. The enormous number of neuroses became too clearly apparent during the war when so many young men were rejected by Selective Service or were discharged from service because of inability to stand the stresses of training or battle. In any case, people react in various ways to the difficulties of the peacetime as well as the wartime tensions of a competitive society. Some become ill with anxiety states or a neurosis. Others become depressed or withdraw from reality in various ways. Still others long for the omnipotent protection and comfort that were available in childhood. As the psychiatrists put it—"they regress to orality." They seek comfort and security in eating. Eating becomes more than a means of maintaining nutrition or growth—it becomes a drug to relieve unbearable nervous tension.

OBESITY IN CHILDREN

Obesity in children is also the result of an interplay of psychological and social factors. Investigation of a series of 40 families by Dr. Hilda Bruch and associates at the College of Physicians and Surgeons, Columbia University, revealed a more or less characteristic family frame in which the child became obese. Economic insecurity of the home and incompatibility in temperament between husband and wife were common findings. In more than one-half of the cases, the child had been unwanted. The mother was often the dominating figure in the family. She usually exhibited an ambivalent or hostile attitude toward the child. The rejection of the child was compensated for by over-protection and excessive feeding. In the insecure and emotionally tense home environment, food had gained an exaggerated importance. As stated in the study, "it had been charged with a high emotional value and stood for love, security, and satisfaction, and represented in all instances an important tie in the relationship between parents and children."

Treatment of obesity thus is often a far more complicated and difficult job than simply starting a diet or taking thyroid gland extract or reducing the appetite with such drugs as Benzedrine or Dexidrine. To cure obesity and to *prevent its recurrence* it is essential to discover the reason for the overeating. A doctor undertaking treatment of obesity from this fundamental point of view will have to be a psychiatrist and a sociologist as well as a drug-therapist. It is likely that such a well-rounded physician will be difficult to find. And if he is found, it is also likely that the cost of his services will be too great for the person of average income.

TREATMENT

The average doctor will have his greatest success in treating those patients who are only slightly or moderately overweight and whose eating compulsion stems from mild nervous tension. In treatment, the objective is to reduce the caloric value of the diet or increase the energy expenditure or both. This will compel the overweight person to draw upon his excess stores of fat to meet his body needs. In the experience of doctors expert in this field, increased exercise and thyroid medication are futile. Exercise usually simply stimulates the appetite out of proportion to the amount of energy expended. Thyroid in moderate doses has little effect on the metabolism of most obese persons because the hormone is inactivated by the tissues. With larger doses, there is not only the serious danger of causing "hyperthyroidism" (an overactive thyroid gland), but the effect of an increased appetite associated with the hyperthyroidism will cancel out the increased burning of calories.

Many doctors disapprove of rapid reducing regimens. A diet that will provide about 2000 calories a day is much more rational than a "7-day reducing diet" of 400 or 500 calories daily. The diet should be as close to the ordinary diet as possible—avoiding fatty and starchy foods and including an average amount of pro-

tein foods. Weight decrease will be slow and continuous over a period of months rather than days. Overdoses of thyroid may have profound and even fatal effects, as a result of thyroid's effect on the heart and blood vessels.

Correct eating habits over the years are far more useful than a flashy, quick-reducing sortie. Disciplined eating habits are far more important than memorized calorie values of foods. Permanent weight reduction will occur only when these habits become a part of the individual, that is when the nervous addiction to food is eliminated. And this, of course, may be impossible without psychiatric treatment particularly if the social tensions of society are too great and continuous.

Your Income Tax

CU's tax consultant gives some money-saving advice on the preparation of your income tax return for 1946

Income tax returns for the year 1946 must be filed with the Collector of Internal Revenue by March 15th.

Although persons who are regularly employed will have paid all, or at least a large part of their income tax obligations through withholding deductions taken from their wages or salaries during 1946, *they must still file returns.* The withheld taxes only approximate the total tax obligation. The March 15th return is intended to show the actual tax obligation for 1946 as compared with the amount already paid. Those who have overpaid will get a refund from the Treasury Department; those who have underpaid must pay the additional amount when the return is filed.

Every citizen of the United States (including minors) who had a gross income of $500 or more in 1946 must file an income tax return. This obligation applies whether the individual is single or married; it holds regardless of the number of dependents. In the case of a minor, the parent or guardian must see that a return is filed, and he is responsible for any payment that must be made.

GROSS TAXABLE INCOME

Gross income for tax purposes does not necessarily mean total income. Some forms of income are not taxable, and hence can be excluded from gross income. These include Social Security benefits and benefits paid under the Railroad Retirement Act; unemployment insurance benefits paid by the States; bona fide gifts, bequests and inheritances; interest on tax-exempt Federal, State and municipal securities; sickness and injury benefits; the proceeds of an insurance policy on the death of the insured; and government allotments paid to dependents of members of the armed services, to the extent of the Government's contribution.

In addition to these types of nontaxable income, the law provides a special exclusion for enlisted men and noncommissioned officers. If you were in the armed services during all or part of 1946, you can exclude your entire military pay and allowances if you were in one of the following categories: enlisted man in any branch of the services; warrant officer in the Army, Navy, Coast Guard or Marines; chief warrant officer in the Army. This special exclusion will continue until the war has been officially terminated by Presidential proclamation.

Commissioned officers, including chief warrant officers in the Navy, Coast Guard or Marines, can exclude the first $1500 of their military pay from gross income for tax purposes. This exclusion is over and above the regular personal exemption and exemptions for wives, children and dependents. As with enlisted men, this special exclusion for officers will continue until the official end of the war.

The following items are never treated as income and can be disregarded for tax purposes: mustering-out pay; benefits under the GI-Bill of Rights; Federal readjustment allowances; unemployment insurance benefits to veterans; and various other State benefits to veterans.

If, after having deducted such nontaxable items from total income, your gross income amounted to $500 or more in 1946, you must file a return, even though you have to pay no tax. You should also file a return if your income was less than $500, but withholding payments were made on any part of it. You will then get a refund of the tax that was withheld. You cannot get the refund if you do not file a return.

EXEMPTIONS ALLOWED

Every person who files a return gets a personal exemption of at least $500. A married person receives an additional $500 exemption for his wife (or husband, if the wife files the return) and an exemption of $500 for each child or dependent. Only close relatives whose incomes amounted to less than $500 in 1946, and who received more than one-half of their support from you can be classed as dependents for tax purposes. If two persons contribute to the support of a close relative, only the one who contributes more than half of the support can take the exemption.

A married man with two children therefore has a total exemption of $2000 ($500 for himself, $500 each for his wife and two children). An individual who supports his mother and father has a total exemption of $1500. You can take an exemption of $500 for a daughter or a son who is going to college and is dependent on you for more than one-half of his or her support; this exemption is allowed regardless of the child's age.

There are three methods of filing income tax returns: The Withholding Statement; the Short Form Return; and the Long Form Return. Since the amount of income tax you must pay may depend somewhat on the form you use, you should consider all three so that you use the one which brings you the greatest tax benefits.

THE WITHHOLDING STATEMENT

You may use the Withholding Statement as your income tax return, provided that in 1946 your total income from wages or salary on which withholding payments were made was less than $5000, and further provided that you had no more than $100 in additional income on

which no withholdings were made. Your employer is required by law to furnish you on or before January 31st with a Withholding Statement, showing your total wage or salary for 1946 and the amount which was withheld for income taxes.

The Withholding Statement is the simplest of the three income tax forms. It allows an over-all deduction of about 10% of your total income to cover charitable contributions, interest payments, casualty losses, medical expenses and other permissible deductions. If you can use this form, and if your permissible deductions amounted to no more than 10% of your total income, the Withholding Statement offers a simple solution to the problem of which form to use. But if your permissible deductions for the year were greater than 10% because of extraordinary medical expenses, for example, you can effect a tax saving by using the Long Form Return on which your deductions can be itemized.

In filling out the Withholding Statement, all you need do is answer a few simple questions, and mail the form to the Collector of Internal Revenue. You send no money with this type of return. The office of the Collector calculates your tax, and either bills you for the balance that you owe, or sends you a refund if your withholding payments during 1946 exceeded your actual tax obligation.

A husband and wife can file a joint return on a Withholding Statement provided their combined income from wages or salaries covered by withholding payments was less than $5000 and provided they had no more than $100 of other income on which no withholdings were made. If a couple files jointly on a Withholding Statement, there need be no question as to whether a joint return or single returns would have brought greater tax benefits. The Collector of Internal Revenue makes the calculations both ways, and computes your tax obligations with the method that will bring you the lower tax obligation.

THE SHORT FORM

If your gross income was less than $5000, you may want to use the Short Form Return as an alternative to the Withholding Form, even though you are eligible for the latter. If your income was not subject to withholdings, you cannot, of course, use the Withholding Statement, but must use the Short or Long Form Return. You may want to use the Short Form in preference to the Withholding Statement if you have allowable expenses which can be deducted from your gross income.

The Short Form permits you to compute your *adjusted gross income* by subtracting certain allowable deductions from your gross income. For example, a salesman may have earned $4750 in 1946, but he may have had $750 in travelling expenses for which he was not reimbursed by his employer. On the Short Form he can deduct the $750 of travelling expenses and report his adjusted gross income as $4000. But if he uses the Withholding Statement, he must pay taxes on his gross income of $4750. If you use the Short Form and claim deductions from gross income, itemize your deductible expenses on a separate sheet of paper and attach this securely to your return.

The concept in the tax law of "adjusted gross income" affects primarily those whose incomes are derived from a trade, a profession or a business. Such taxpayers are permitted to deduct from total income the expenses they incurred in earning their livelihood, such as the costs of maintaining an office or a business, entertainment and travelling expenses and other "ordinary and necessary expenses."

DEDUCTIBLE EXPENSES

A wage or salary earner, on the other hand, may deduct from his total income only those expenses connected with his job for which he has some allowance arrangement with his employer, or the expenses of travelling, meals and lodging incurred in the course of his work away from home for which he receives no reimbursement from his employer. For example, a man may have earned $4900 in 1946, of which $500 was used for entertainment expenses for which he was not reimbursed. His adjusted gross income is, therefore, $4400 after deduction of his unreimbursed $500 entertainment expenses.

The concept of adjusted gross income is important to those who have permissible expenses deductible from total incomes, whereby they can reduce tax liabilities. The amount of adjusted gross income also determines whether you can use the Short Form Return.

You can use the Short Form Return if your adjusted gross income in 1946 was less than $5000. With the Short Form, you find your tax obligation by consulting a table that comes with the Form. The amount you are required to pay is determined by your adjusted gross income (*not* by your gross income, as in the Withholding Statement). The table automatically allows you a deduction of about 10% of adjusted gross income to cover contributions, medical expenses, interest payments, etc. The Short Form Return is advantageous for those whose permissible deductions are 10% or less of adjusted gross income. But if your allowable deductions are greater than 10% of adjusted gross income, you can achieve a tax saving by itemizing them on the Long Form Return, and then computing your tax obligation.

THE LONG FORM

All persons whose adjusted gross incomes in 1946 were $5000 or more must use the Long Form Return. Taxpayers whose adjusted gross incomes were less than $5000 but who had deductible expenses amounting to more than 10% may also use the Long Form and will benefit from doing so.

If your adjusted gross income is less than $5000 and if you use the Long Form to claim expenses amounting to more than 10% of adjusted gross income, you must itemize these expenses before computing your tax obligation. If your income was $5000 or over, however, you have the option of taking a standard total deduction of $500 (in which case you do not have to itemize your deductions) or of itemizing your deductions. This standard deduction is not in addition to other permissible deductions but an over-all allowance for contributions, medical expenses, etc., in the event that you prefer not to itemize them. On an income of $5000 or over, you will want to use the standard deduction of $500 if your permissible deductions were $500 or less. But if they amounted to more than $500, you can achieve a tax saving by itemizing your deductible expenses on the Long Form.

If one member of a married couple uses the Long Form and itemizes his or her deductions, the other spouse must also use the Long Form and itemize expenses. There is a similar prohibition preventing one spouse from itemizing his or her deductions if the other, with an adjusted gross income of $5000 or more, uses the standard deduction of

$500. In this case also, both must use the standard deduction, or both must itemize all their expenses.

These limitations are designed to keep one spouse from listing all permissible deductions to gain a tax advantage, while the other spouse obtains another tax advantage by taking the standard $500 or 10% deduction. For example, a husband has an adjusted gross income of $5000 and itemizes deductible expenses amounting to $1000. He uses the Long Form listing all his permissible deductions to obtain a tax saving. His wife, who makes $3000 a year, has allowable deductions of only $100. If she were not required to itemize them, she could take a 10% deduction amounting to $300 by using the Short Form. The limitations are meant to prevent such juggling of joint expenses.

If both husband and wife have incomes, and their combined adjusted gross income is $5000 or more, it will usually not pay them to take the single standard deduction of $500 unless one spouse has less than $500 of adjusted gross income. By filing individual returns, each spouse can obtain the general 10% deduction. But in a joint return they would be entitled only to the one standard deduction of $500.

ALLOWABLE DEDUCTONS

Whatever your 1946 income was, it may be worth your while to itemize all your allowable deductions before making a final decision on which form to use. Here are some of the major deductions you may take if you itemize them in determining your net taxable income:

CONTRIBUTIONS made to charitable, educational, scientific and similar organizations serving a public need may be deducted up to 15% of your adjusted gross income. If you are uncertain as to whether a contribution you made last year is deductible, write to the organization and it will tell you its tax status. You may not deduct as contributions any gifts you may have made to relatives or friends.

INTEREST PAYMENTS made on personal or family loans, including the interest on the mortgage on your home, are deductible. You may not deduct any interest you may have paid on a friend's debt; this is considered a gift. But a husband or a wife may deduct interest paid on a loan from the other spouse if it is a bona fide interest-bearing loan.

TAXES imposed directly upon the taxpayer, paid during 1946, may be deducted. This does not, however, include Federal income taxes, estate and gift taxes and excise taxes. You may not, therefore, deduct the 20% Federal excise tax on furs, jewelry, leather goods and cosmetics, Federal amusement taxes or Federal taxes on telephone and telegraph bills. You may deduct State and municipal real estate taxes, State automobile license fees and State gasoline taxes. You may also deduct municipal and State income taxes, but not local benefit, gift, inheritance, legacy and succession taxes. You are permitted to deduct State and municipal sales taxes if they are stated separately and paid for by you as a consumer. You need not get a sales slip on which the tax is stated separately; you are entitled to the deduction whenever the tax is added on to the sales price or charged as a separate item.

LOSSES from fire, storm, casualty or theft are deductible. But you may deduct only that part of the loss which is not covered by insurance; if you had no insurance, the entire loss is deductible. Casualty losses of this kind are deductible only in the year in which the loss has been sustained, and the amount of the deduction is limited to the cost or value (whichever is lower) at the time of the loss.

MEDICAL EXPENSES in excess of 5% of your adjusted gross income are deductible if they were incurred in 1946. Thus, if your adjusted gross income in 1946 were $5000, you would be permitted to deduct the amount that exceeds $250; if your medical expenses were $400, you could deduct $150. Medical expenses, as defined, include doctors' and dentists' bills, payments for hospital care and hospital, medical and accident insurance, the cost of medicine and medical supplies, eyeglasses, and all expense incurred in the cure or prevention of disease. You may not, however, deduct medical expenses for which you receive insurance compensation.

For married couples, the maximum permissible medical deduction is $2500. Single taxpayers or persons filing separate returns are allowed a maximum deduction of $1250 each. Taxpayers supporting dependents may deduct up to $2500 for medical expenses, regardless of the number of dependents.

There are other miscellaneous deductions under special circumstances which do not apply to most persons. These include deductions for alimony, investment expenses, a special deduction for blind persons, etc.

Having computed your allowable deductions, you subtract their total amount from your adjusted gross income to arrive at your net income for tax purposes. The amount of your itemized deductions will help you decide which form you can use to greatest advantage. If you use the Withholding Statement or the Short Form, you do not compute the tax yourself. With the former, the Collector of Internal Revenue does the job. With the latter, the amount of tax you pay is computed in the table that accompanies the Short Form. But if you use the Long Form, either because your adjusted gross income was $5000 or more or your allowable deductions were more than 10% of adjusted gross income, you must compute your tax obligation.

SAMPLE COMPUTATION

As an illustration, take the case of a taxpayer who is married and has two children, and had a taxable income, after all allowable deductions, of $6500. Under the present law, he is permitted an exemption of $2000 for himself and three dependents, both for surtax and normal tax purposes. Subtracting his $2000 exemption from his taxable income of $6500, he finds that his normal and surtax net income comes to $4500.

In the instruction sheet which comes with his return, the taxpayer in our example finds a table giving the combined tentative rates for normal tax and surtax net income. On the first $4000 of normal and surtax net income, the tax given by the table is $840. On the remaining $500, the rate is given as 26%, which figures to $130. His total tentative tax is therefore $970. He reduces this amount by 5%, or $48.50 under the tax reduction provision enacted by Congress. His actual tax obligation for 1946 is then, $921.50.

If you use the Long Form and have to compute your tax obligation, you should, like the taxpayer in the example above, use the table provided on the instruction sheet that comes with your return. This table gives the tentative combined normal and surtax rate for each bracket of taxable income. The figures are based on a rate of 3% normal tax and surtaxes starting at 17% for the first

$2000 of taxable income, and graduated upward from there. To find your tax indebtedness, simply add to the cumulative total from the table, the additional amount which falls into the higher bracket of taxable income, then reduce your tentative tax by 5%.

JOINT RETURNS

Married persons with separate incomes will want to decide, before filling in a return, whether they will benefit more from filing separate returns or a joint return. Couples having combined incomes of more than $3000 generally find it advantageous to file separate returns, since surtaxes mount on every bracket of taxable income, and therefore the total tax on separate returns may be considerably lower than the tax on a joint return. When a joint return is filed, all deductions are taken as though the expenditures had been made by one taxpayer. With separate returns, individual deductions are taken by each spouse on his or her return.

In most cases where the wife has no income, she need file no return. Her exemption is taken by her husband on his tax return. There are some cases where it may be advantageous to file a joint return even if the wife had no income. For example, if the wife had some money of her own and used it to pay her own substantial medical expenses, these could be deducted on a joint return, whereas they could not be deducted from the husband's individual return.

Taxpayers who file separate returns cannot prorate their exemptions. In this case, each spouse must take one exemption. The option to file joint or separate returns can be taken in each taxable year, regardless of the action taken in previous years. Even after the choice is made and a return is filed, it can still be changed over to the other basis before March 15th. But after that date, no change is permitted even if the taxpayers file an amended return.

Remember that if you use the Withholding Statement, you do not send any money to the Collector of Internal Revenue. He makes the computation and either bills you for the balance you owe or sends you a refund if you have overpaid.

With either the Short Form or the Long Form, you must clear up your obligation by March 15th if you still have an unpaid balance due. If you have overpaid, you can ask for a refund or credit the overpayment to your 1947 tax obligation.

In computing your tax obligation on the Short or Long Form, deduct all the withholding payments you may have made in 1946 as well as any quarterly payments you may have made on your 1946 declaration of estimated tax. The balance represents either the amount you owe, or the amount the Government owes you because of overpayments you have made.

ESTIMATE DECLARATION

When you have finished with your 1946 income tax return, you may still have one more chore. You may have to file a declaration of your estimated income tax for 1947. You must file such a declaration by March 15th if you expect your 1947 income to be in excess of $5000 plus each of your exemptions except your own. For example, if you are married and have no children and expect to have a salary of $7000 in 1947, you must file a declaration of estimated tax. You must also file a declaration if you expect to have income exceeding $100 that is not subject to withholding payments, provided your total income will be $500 or more.

If you file a declaration of estimated tax and your estimated obligation is greater than the amount that is being withheld, you can pay the difference at once or in four quarterly installments. These installments are due March 15, 1947, June 15, 1947, September 15, 1947 and January 15, 1948. If none of your income is subject to withholding deductions, you can pay your entire estimated obligation at once or in these quarterly installments. Each time you pay an installment, you may amend your estimate, if there have been changes in your income or exemptions.

The simplest way of computing your declaration of estimated 1947 tax is to base it on your 1946 net income if you expect your income and exemptions to be the same as they were in 1946. Computing your estimate in this way will enable you to avoid any penalty tax for underestimating. If you use another method for computing your estimated tax, your estimate must be at least 80% of your final tax obligation as reported on your 1947 return. Otherwise, you will have to pay a penalty for underestimating.

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Each issue of the Reports contains this cumulative index of principal subjects covered since publication of the 1947 Buying Guide issue. By supplementing the Buying Guide index with this one, members can quickly locate current material and keep abreast of changes resulting from new tests. Page numbers run consecutively beginning with the January 1947 issue: Jan. 1-28, Feb. 29-56.

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